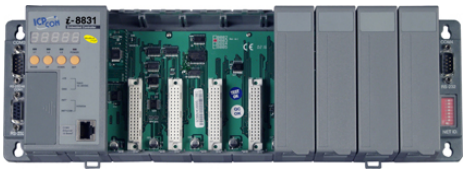


Quick Start Guide for i-8000-MTCP

May 2014, Version 1.0.0

Congratulations!

Congratulations on purchasing i-8000-MTCP - the most popular automation solution for remote monitoring and control application. This Quick Start Guide will provide information needed to get started. Please also consult the User Manual for detailed information on the setup and use of i-8000-MTCP.

What's In the Box?

In addition to this guide, the package includes the following items:

i-8000-MTCP (i-8431-MTCP/i-8831-MTCP/ i-8KE4-MTCP/i-8KE8-MTCP)

Software Utility CD

RS-232 Cable (CA-0915)

Screw Driver (1C016)

Technical Support

- **i-8000-MTCP Reference Document**
  CD:\Napdos\Modbus\8000e\Document\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/8000e/document/

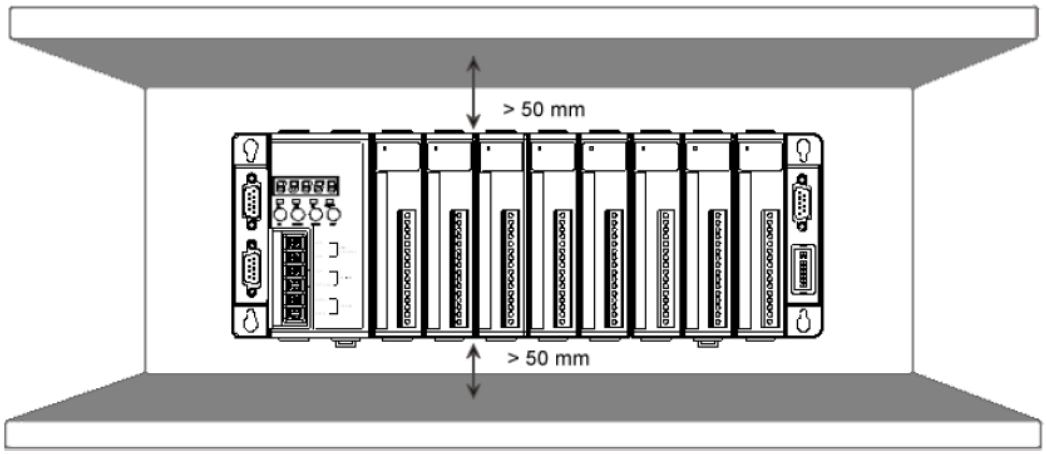
- **i-8000-MTCP Website**
  http://www.icpdas.com/root/product/solutions/pac/ipac/i-8431-mtcp.html
  http://www.icpdas.com/root/product/solutions/pac/ipac/i-8ke4-mtcp.html

- **ICP DAS Website**
  http://www.icpdas.com/

 E-mail: service@icpdas.com

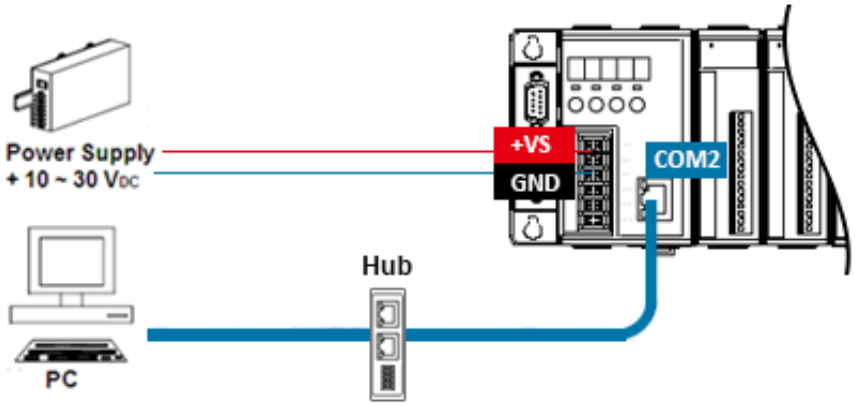
1 Mounting the Hardware

The i-8000-MTCP installation must provide proper ventilation, spacing, and grounding to ensure the equipment will operate as specified. A minimum clearance of 50mm between the i-8000-MTCP and the top and bottom side of the enclosure panels must be provided.



2 Connecting to PC, Network and Setting up the Power

i. Connect **PC** to **COM2 (Ethernet)** port through a **hub**.
ii. Connect the **+24 V_{DC} power supply** to **+VS** and **GND** terminals.



3 Installing the Modbus Utility

The Modbus Utility can be obtained from companion CD or ICP DAS FTP site:
CD:\Napdos\Modbus\Modbus_Utility\
ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/modbus_utility/

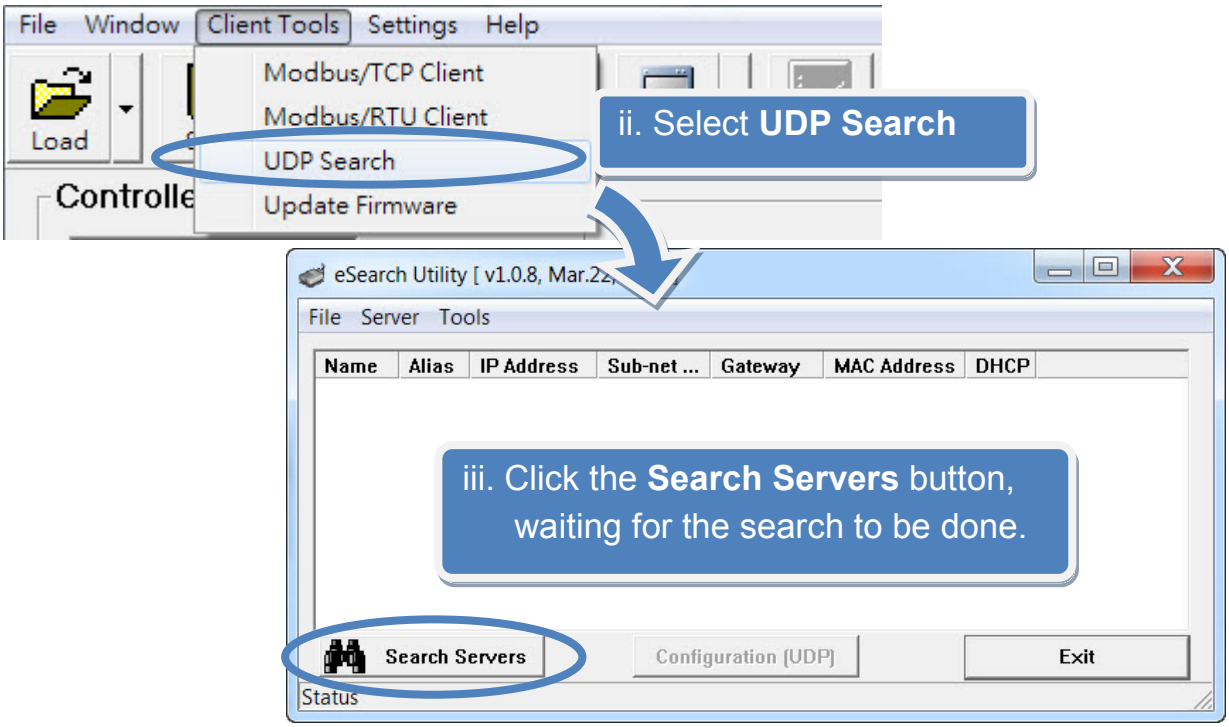
4 Using the Modbus Utility to Assign a New IP Address

UDP Search of the Modbus Utility can be used to configure the IP address. Before starting the configuration process, ensure that the **COM2** are used to connect to network and make the controller under **the running firmware mode**. The default IP addresses are as follows:

Item	default
IP Address	192.168.255.1
Subnet Mask	255.255.0.0
Gateway	192.168.0.1

Step 1: Run the Modbus Utility, and then search the i-8000-MTCP.

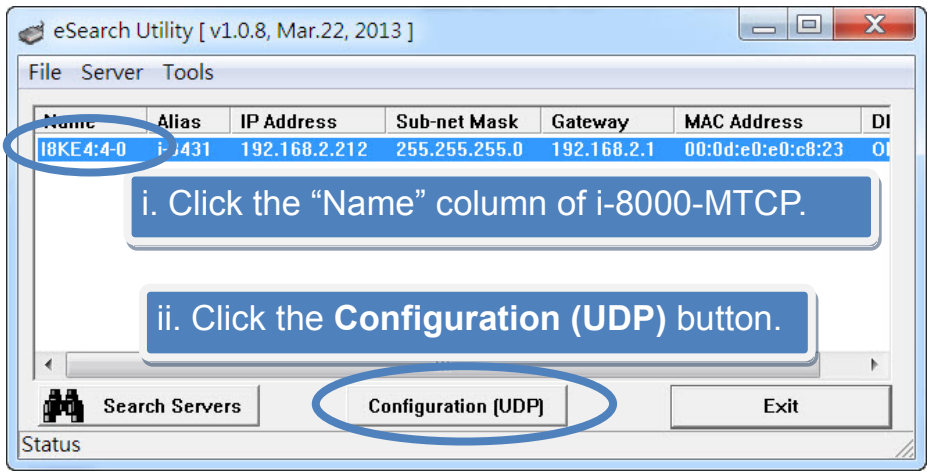
i. Double-click the **Modbus Utility** shortcut on the desktop.
ii. Select **UDP Search** from the **Client Tools** menu.
iii. Click the **Search Servers** button of the **eSearch Utility** dialog, waiting for the search to be done.



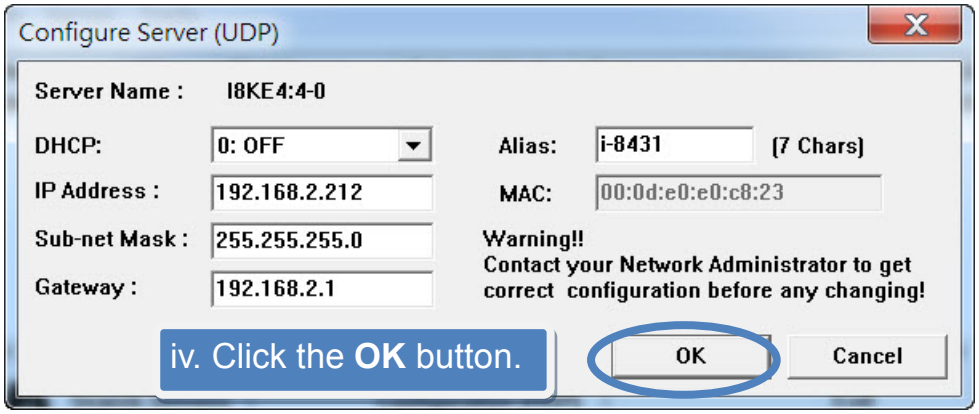
Step 2: Configure IP Address.

i. Select the “Name” field from the default IP address row of i-8000-MTCP.

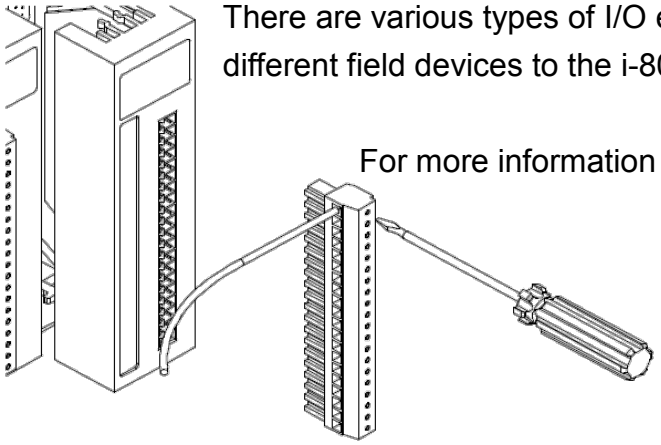
ii. Click the **Configuration (UDP)** button to open the setting dialog.



iii. Configure the IP settings.
iv. Click the **OK** button to save the configuration.



5 Inserting and Wiring the I/O Modules



There are various types of I/O expansion modules for interfacing many different field devices to the i-8000-MTCP.

For more information about I/O expansion module, please refer to

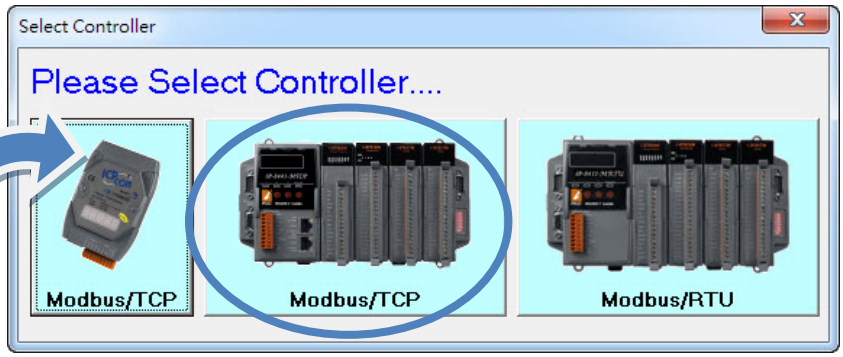
http://www.icpdas.com/products/PAC/xpac/remote_io_support_list.htm

6 Using the Modbus Utility to Configure the Module

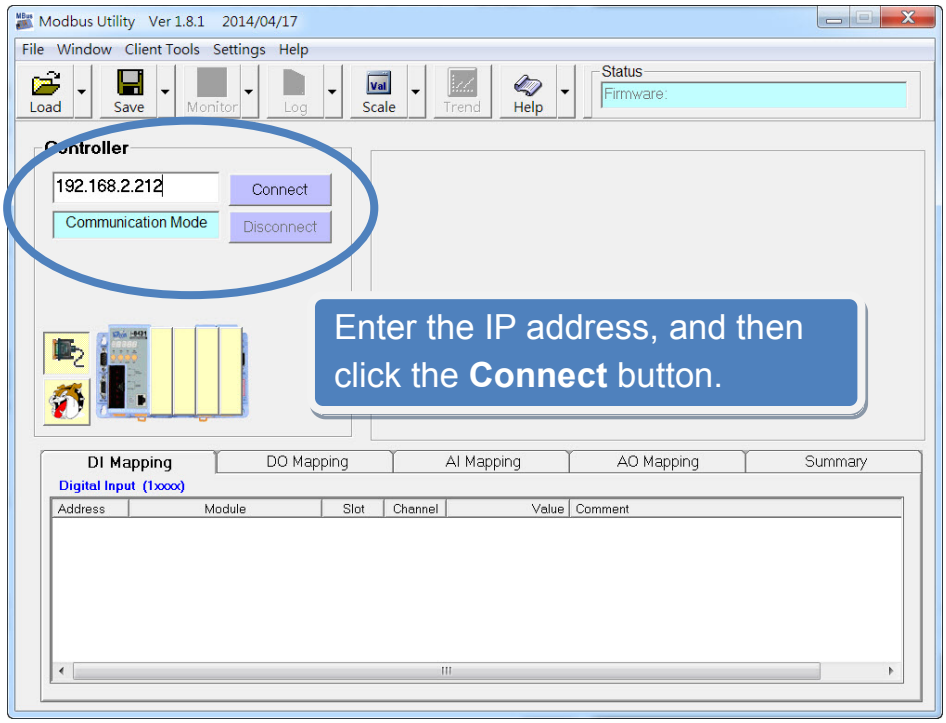
The Modbus Utility can be used to make the communication between the i-8000-MTCP and PC/Laptop via the Modbus/TCP protocol.

Step 1: Run the Modbus Utility and connect to i-8000-MTCP.

i. Double-click the **Modbus Utility** shortcut on the desktop.



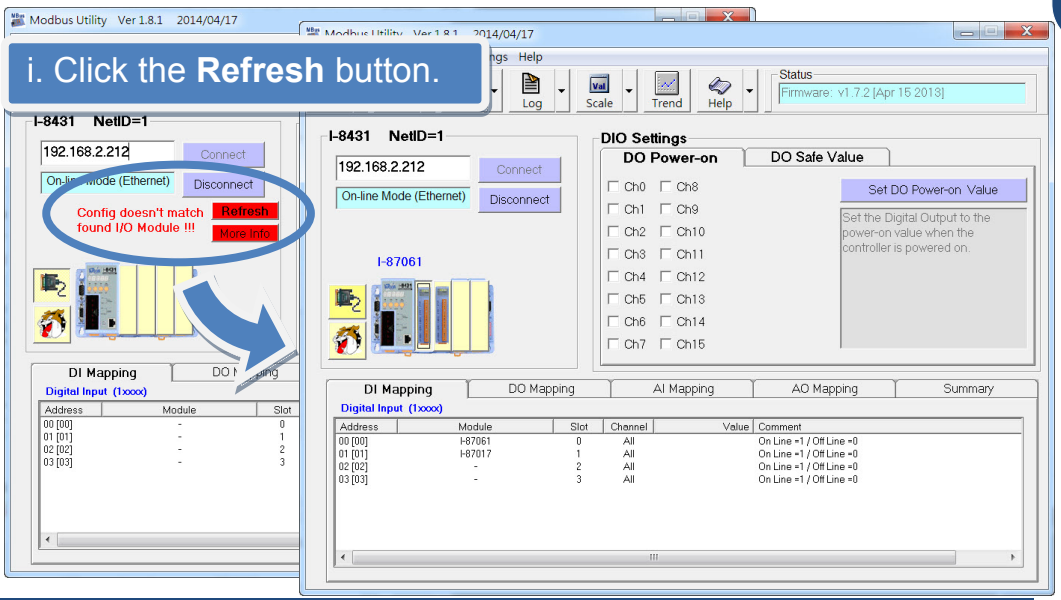
ii. Click the **Modbus/TCP** button in the middle of the **Select Controller** dialog.



iii. Enter the IP address, and then click the **Connect** button.

Step 2: Match the I/O module and then get the I/O configuration information.

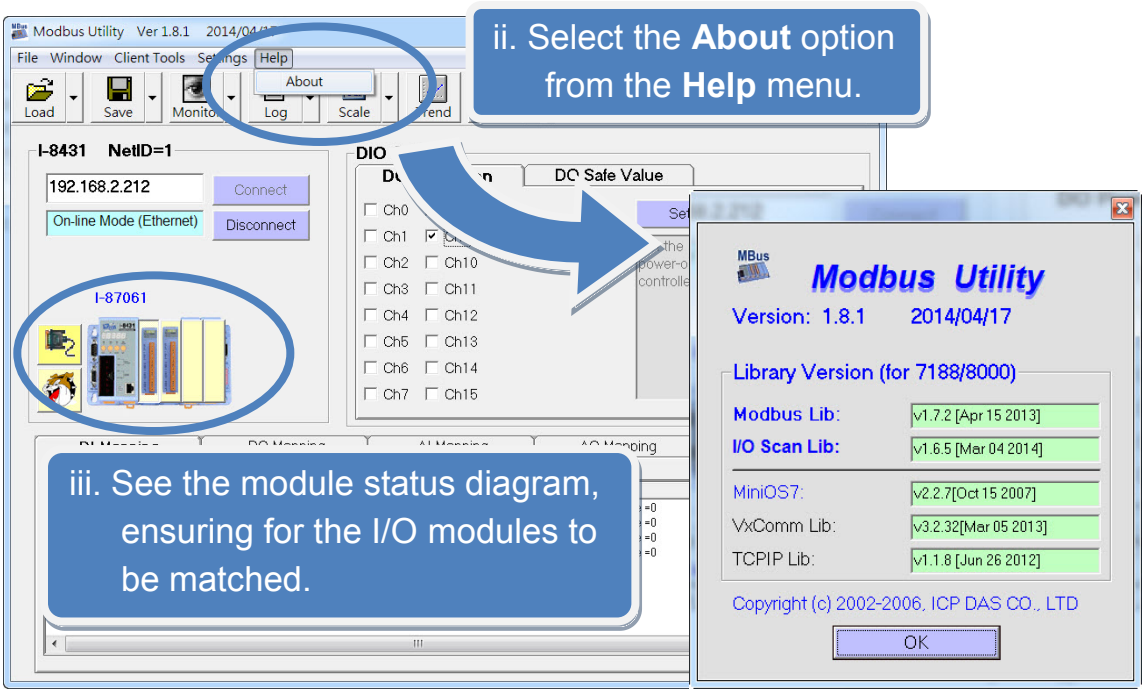
i. Click the **Refresh** button to match the I/O modules to configuration of the controller.



 E-mail: service@icpdas.com

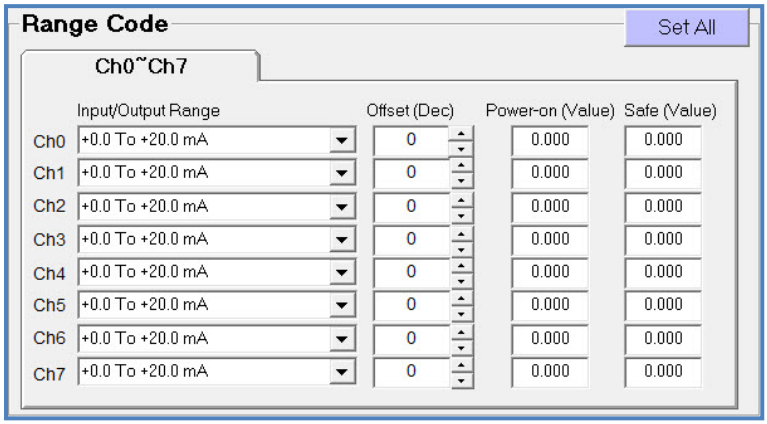
ii. Select the **About** option from the **Help** menu to get the I/O configuration and firmware information.

iii. Check the module status diagram, ensuring for the I/O modules to be matched.

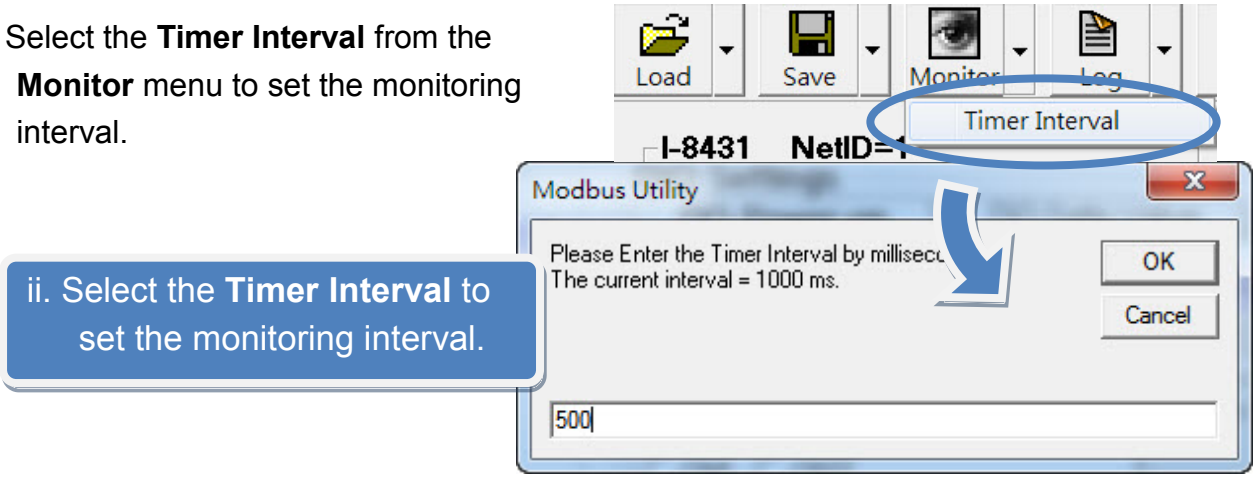


Step 3: Set I/O configuration, get the I/O values and then save the I/O configuration.

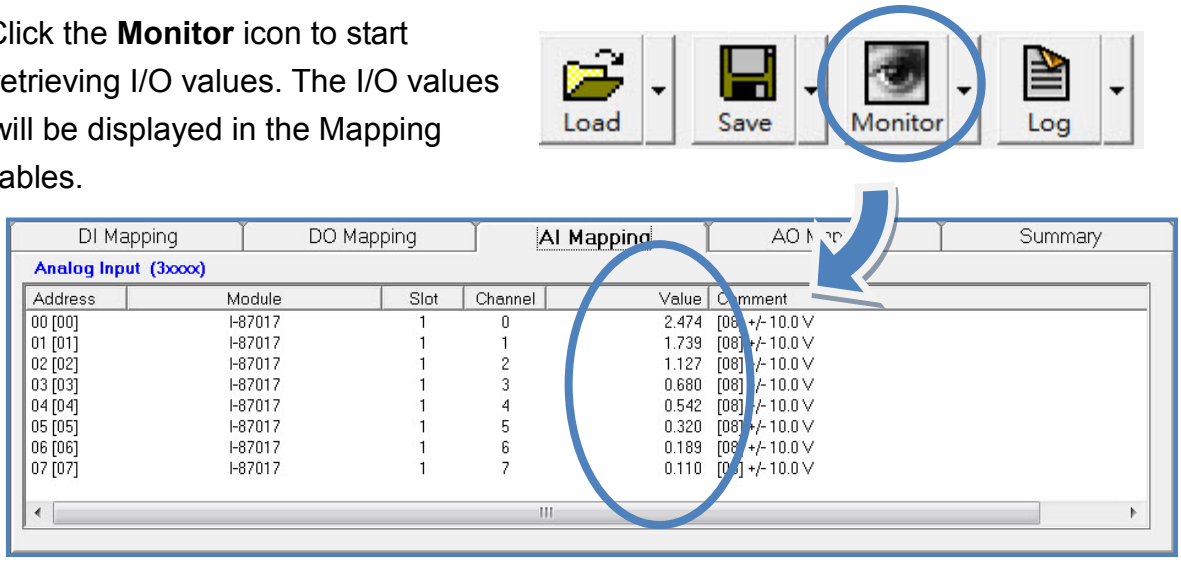
i. Configure the I/O settings, such as Range Code, Power-on and Safe values.



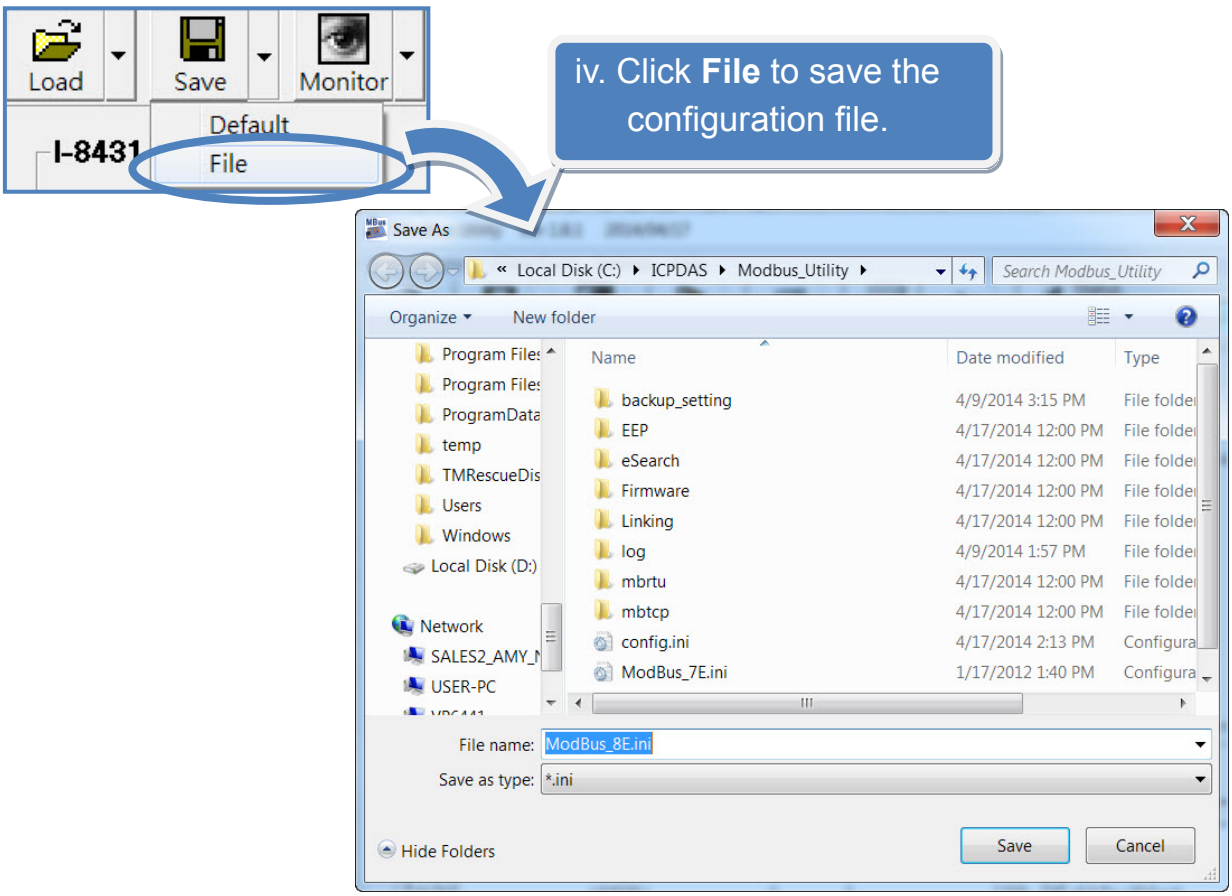
ii. Select the **Timer Interval** from the **Monitor** menu to set the monitoring interval.



iii. Click the **Monitor** icon to start retrieving I/O values. The I/O values will be displayed in the Mapping tables.



iv. Select **File** option from the **Save** menu and select a location where the configuration file is about to be saved. This operation can save the controller configuration and I/O settings to an “ini” file, and the file can be loaded by **Load** function at the next time when using the same controller and I/O modules.



7 Developing Your Own Application

The i-8000-MTCP is not just an I/O unit but also a programmable controller. Here are some development guideline and tips related to the i-8000-MTCP.

Being a Programmable Controller (Master)

- **Modbus Application Reference Manual**
  CD:\Napdos\Modbus\8000e\Document\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/8000e/document/

- **MiniOS7 API and the Particular 8K Module Reference Manual (i-8000-MTCP is MiniOS7 based.)**
  CD:\Napdos\MiniOS7\Document\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/minios7/document/

- **Modbus SDK**

  For developing i-8000-MTCP firmware
  CD:\Napdos\Modbus\8000e\Demo\bc\lib\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/8000e/demo/bc/lib/

  For developing a program to be access to the i-8000-MTCP on PC
  CD:\Napdos\Modbus\nModbus\demo\DLL\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/nmodbus/demo/dll/

- **i-8000-MTCP Demo Program**
  CD:\Napdos\Modbus\8000e\Demo\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/8000e/demo/

Being a Remote I/O unit (Slave)

- **I-8430/I-8830 User Manual**
  CD:\Napdos\DCON\8430_8830\Documents\
  http://ftp.icpdas.com/pub/cd/8000cd/napdos/dcon/8430_8830/documents/