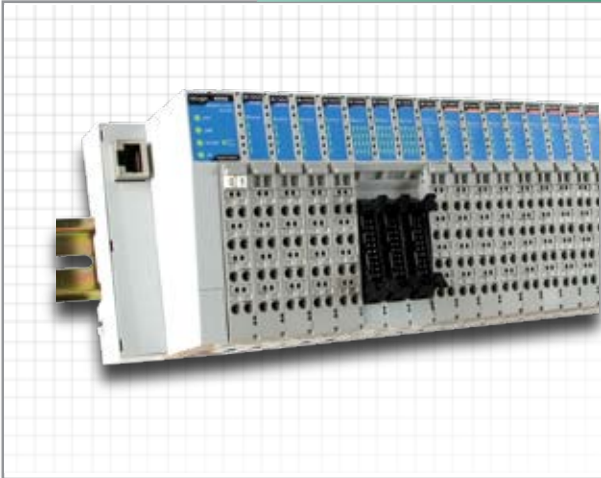


# ioLogik Slice-type Remote I/O Server

## Ethernet I/O Solutions for Data Acquisition and Control



### Features

- Remotely acquire sensor data and control I/O points via Ethernet, RS-485, and RS-232
- Full range of digital and analog I/O modules
- Expandable up to 32 modules for a maximum of 512 DI/O points or 124 analog channels
- Modular package for fast swap and maintenance
- Standard Modbus/TCP/RTU/ASCII, and compatible with most SCADA software
- Easy-to-use DLL library for easy user programming



ioLogik 4000 Series Slice-type Remote I/O Server

### Overview

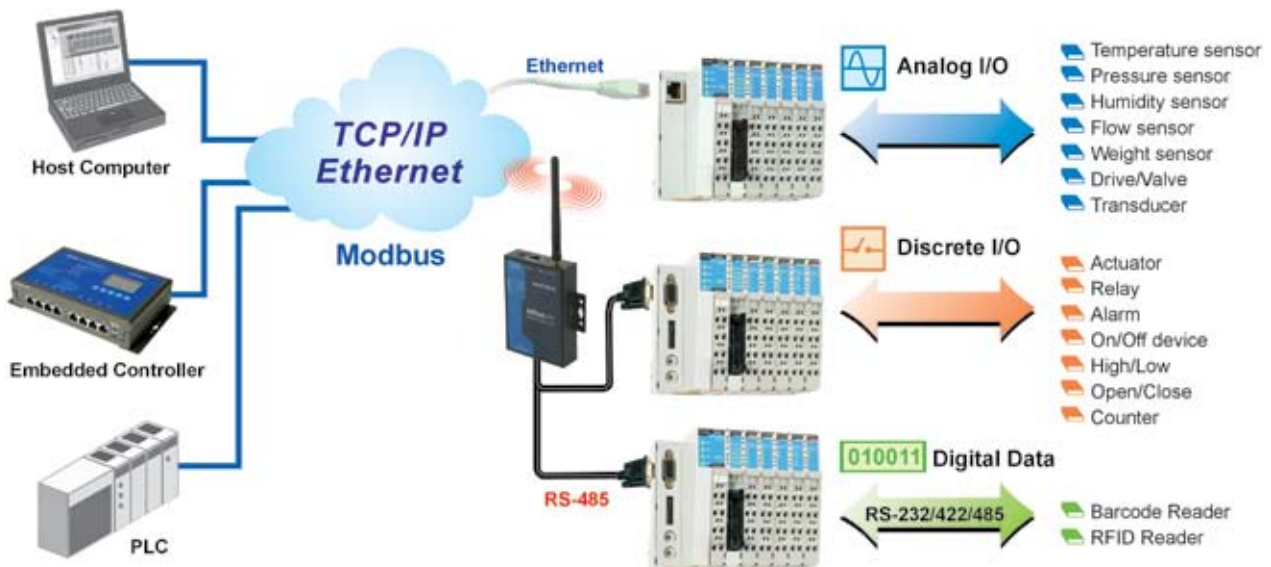
ioLogik 4000 is designed to read sensor data, on/off status, and to control the on/off status of devices via Ethernet or RS-485/232 remotely from a host computer or a PLC

controller. Support for the standard Modbus protocol makes ioLogik 4000 compatible with most SCADA software, such as Intellution iFix, Wonderware, and Labview.

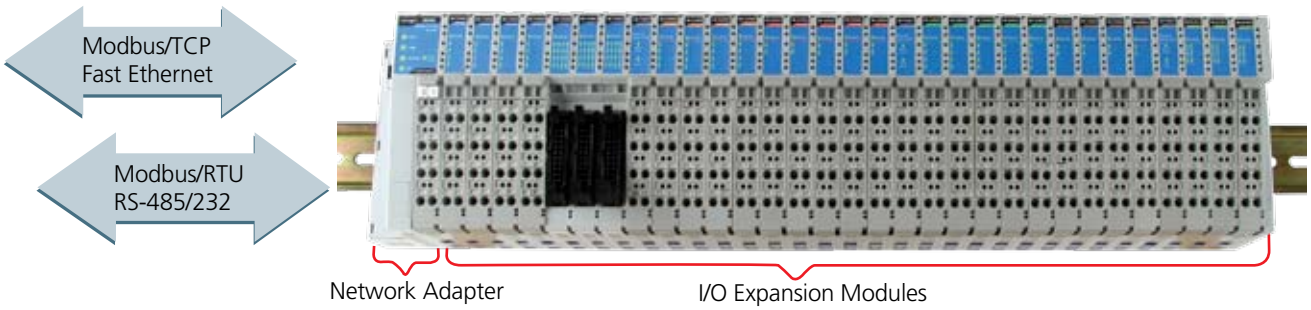
### Link the Real World and Digital World

ioLogik Ethernet I/O from MOXA connects a variety of sensors, and electrical, electronic, and mechanical devices—temperature, humidity, and light sensors, pressure transmitters and motors, serial devices, and more—to computers and applications over standard Ethernet networks

and the Internet. ioLogik also provides a traditional RS-485 remote I/O server that works with existing applications. By using an NPort Wireless Device Server, you can even connect sensors and devices via a Wireless LAN network.



**: Slice-type I/O Modules for a Full Range of I/O Combinations**



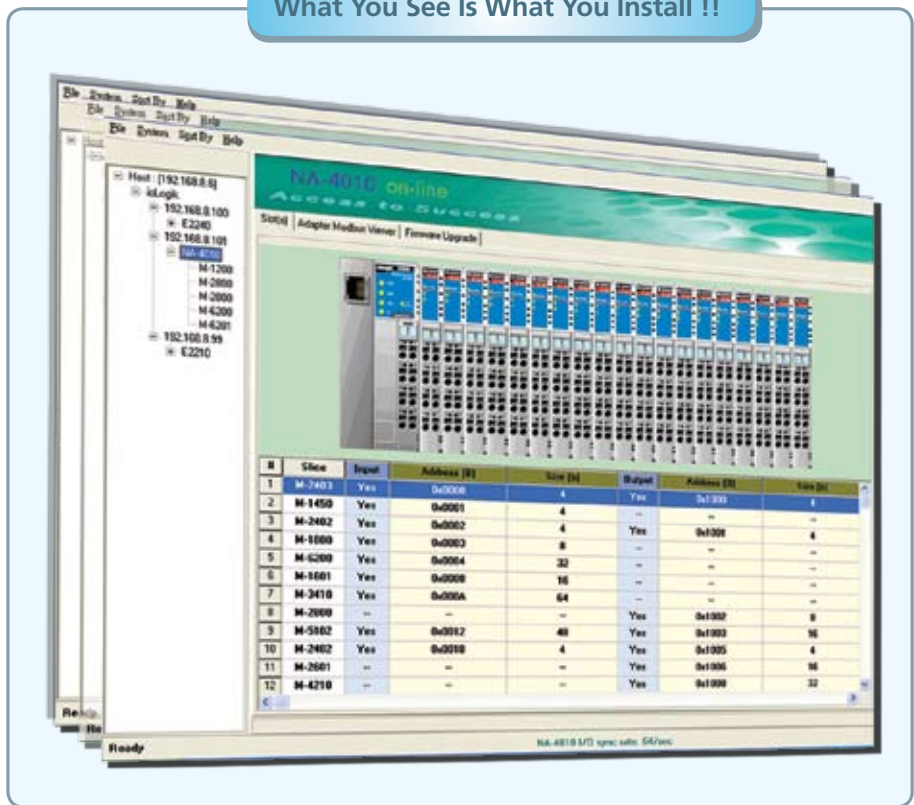
Types of Network Adapter		
Ethernet	RS-485	RS-232

I/O Module							
Digital Input		Digital Output		Analog Input		Analog Output	
Type	Channels	Type	Channels	Type	Channels	Types	Channels
24 VDC	4, 8, 16	24 VDC	4, 8, 16	0 to 20 mA	4	0 to 20 mA	2
48 VDC	4	24 VDC w/ Diag	4	4 to 20 mA	4	4 to 20 mA	2
110 VAC	4	125 VAC	2	0 to 10V	4	0 to 10V	2
230 VAC	4	230 VAC	2	+/-10V	4	+/-10V	2
				0 to 5V	4	0 to 5V	2
				RTD	2		
				TC	2		

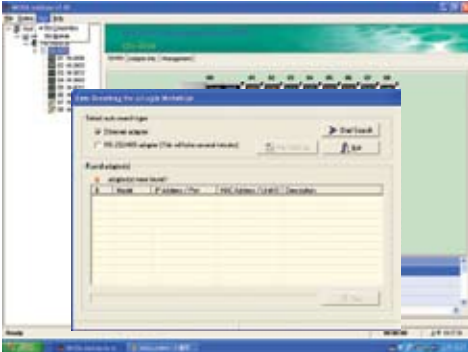
**: Easy to use Windows Software Utility**

ioAdmin is designed to configure and monitor the slice-type I/O server remotely. ioAdmin automatically detects the installed Ethernet I/O server and presents the installation sequence of the I/O expansion modules. ioAdmin also detects and generates a Modbus Address table, which can be printed or stored on a computer for SCADA software configuration.

**What You See Is What You Install !!**



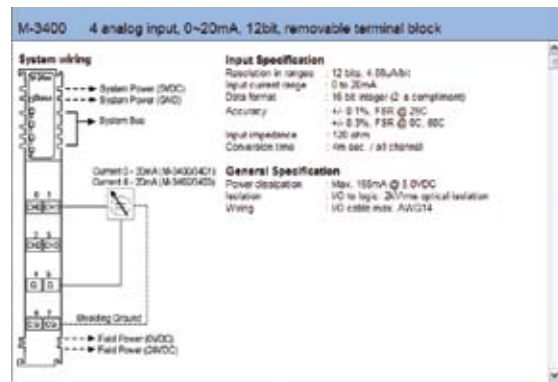
## Automatic Search for Installed ioLogik 4000 I/O Servers



ioAdmin Windows utility provides an automatic search function that can search for installed ioLogik 4000 remote I/O servers. The auto search function not only supports Ethernet communication, but also RS-232/485. All you need to do is check the COM port settings, letting you find your ioLogik I/O servers very easily.

## Online Documentation

Traditionally, engineers needed to prepare a wiring handbook, but now, ioAdmin comes with online documentation that can help engineers install ioAdmin without needing to refer to printed documentation. The online documentation not only covers module types, but also includes a wiring guide. The search by keyword function gives engineers a more efficient means of reducing overall installation time.



## Report Generation

To help you record the I/O module combinations and parameters, ioAdmin can generate a report file in text format that you can use to manage the system. There are three areas in the report. One is for slice models, another is for slice configurations, and the third is for the Modbus address table. To help you configure SCADA, you can see the combination of slices in the slice models and the Modbus address in the Modbus address table. This is particularly helpful since the Modbus address is dynamically dependent on the combination of slices.

```

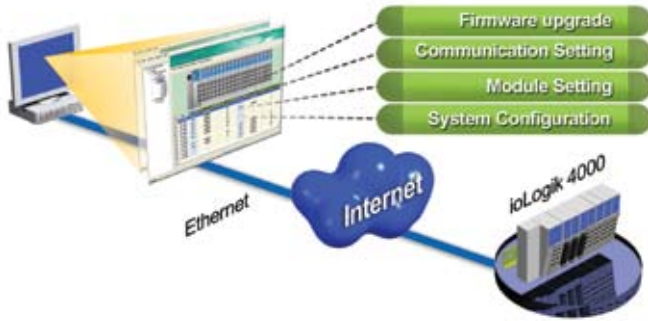
2. Slice configurations
00 H0-4010 IP=148.136.15.100,MS-255.255.255.0,GS-148.136.15.254,M0-10-00-00-10-00-00
    Matchdog-Disable
01 H-1000 -n/a-
02 H-2402 -n/a-
02 H-2402 Ch00: Safe mode-Safe Status(OFF)
02 H-2402 Ch01: Safe mode-Safe Status(OFF)
02 H-2402 Ch02: Safe mode-Safe Status(OFF)
02 H-2402 Ch03: Safe mode-Safe Status(OFF)
03 H-4211 Ch01: Safe mode-Safe Value(0x0000)
03 H-4211 Ch02: Safe mode-Safe Value(0x0000)
04 H-3412 -n/a-
05 H-0200 Ch00: Sensor Type=PT100, Temperature Type=Celsius (°C), Filter Type=Normal
05 H-0200 Ch01: Sensor Type=PT100, Temperature Type=Celsius (°C), Filter Type=Normal

3. Modbus address table
Slot No.    Channel No.    I/O Type    Modbus Address(MRD)    Modbus Address(BIT)    I/O Data Length(bits)
01          01             Input       0x0000/0x01            0x0001                  0x0001
01          02             Input       0x0000/0x02            0x0002                  0x0001
01          03             Input       0x0000/0x03            0x0003                  0x0001
01          04             Input       0x0000/0x04            0x0004                  0x0001
    
```

← Slice configuration

← Modbus address table

### Remote Configuration



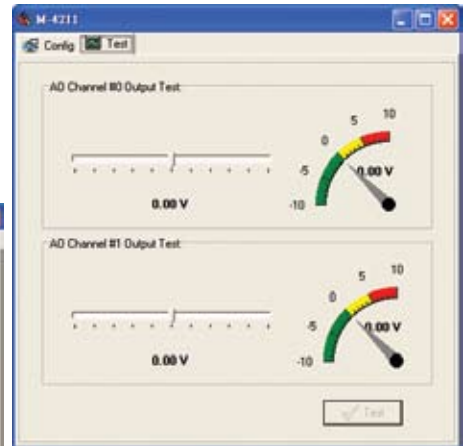
ioAdmin is a powerful, Windows based configuration and management tool. ioAdmin helps you modify the IP address, update communication parameters, and configure all other settings easily. In addition, ioAdmin can be used to configure ioLogik from a remote host. This means that you can configure ioLogik from anywhere over the Ethernet, which can help you reduce your operating cost.

### I/O Testing

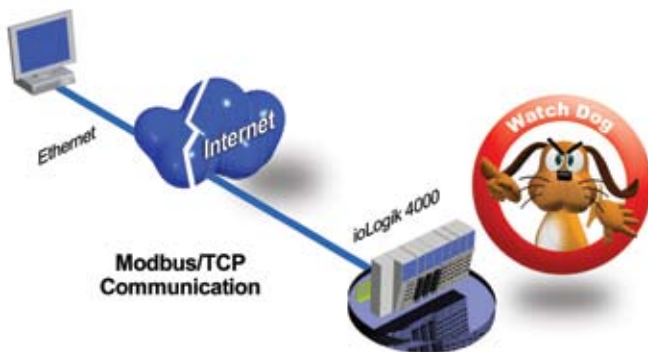
ioAdmin provides a test function for users to make sure the digital/analog output channel works reliably. Traditionally, users needed to use a meter to check the status of each sensor. Now, they only need to use ioAdmin to test the DO and AO status. ioAdmin provides users with an easy to use intuitive user interface.

Digital output: Use the switch to change the "ON/OFF" status to test the I/O devices.

Analog output: Use the slider to change the voltage output.



### Safe Status with Communication Watchdog Timer



ioLogik 4000 is equipped with a built-in watchdog timer that monitors the communication status of Modbus. If Modbus communication between the remote I/O server and a host computer or a PLC stops after a predefined time, the watchdog is activated and all output channels are reset to the predefined safe status. The watchdog ensures the safety of field operations when communication is a problem.

For digital output, you may configure the safe status to ON, OFF, or Hold Last Status. For analog output, you may set the safe status to Fixed Safe Value, Low Limit, or High Limit. For example, if you pre-define the

safe status of the DO to "off," when the Modbus communication times out, the safe status will change the DO status to "off." ioAdmin provides a lot of flexibility in defining time-out values.

### Check Remote I/O Status with a Web Browser



The main configuration interface for ioLogik 4000 relies on the ioAdmin utility. However, you can also check some information by connecting to the ioLogik's web pages. The following information can be obtained using your web browser:

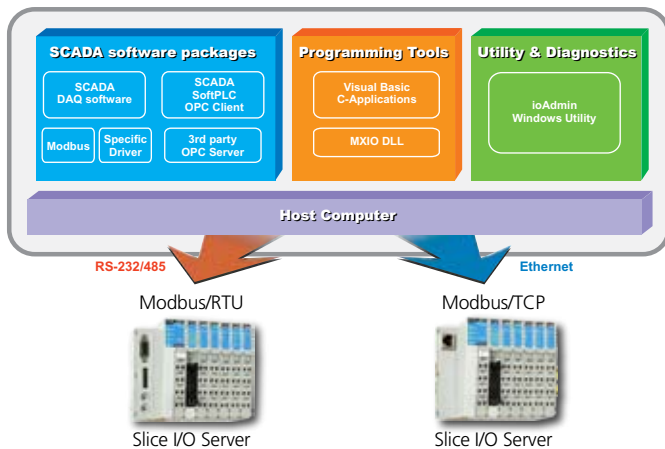
- Network configuration
- Expansion module
- Status of each channel

### Self-Diagnostic Function for Digital Output Channel

Modules M-2402/2403/2404/2405 provide a self-diagnostic function to guarantee that the digital output signal is monitored electronically. The hardware-monitored status will write back to the logic system. After the software sends a command to the above I/O models, you will get the actual digital out status over the network. This is all done internally; configuration is not required.

### Versatile Software Support

ioLogik 4000 supports the standard Modbus protocol and is compatible with most SCADA software. In addition, MOXA provides an easy-to-use MXIO DLL library that helps programmers develop application software with Visual Basic or C language under a Windows platform.



### Various SCADA software supported



ioLogik 4000 is designed using the standard Modbus protocol and can be used with most SCADA systems. The following SCADA software was found to be compatible with ioLogik 4000: Modicon Driver, Wonderware InTouch, GE Fanuc iFix and CIMPLICITY, Broadwin, kingview, and Citect. In addition, we also tested the famous OPC Server "Kepware," which means that you can connect the ioLogik via SCADA or OPC Server.