How to Set Up a User-Definable Modbus/TCP Address for the ioLogik E1200 Series

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The purpose of this tech note is to provide a detailed example of how to easily configure an ioLogik E1200 Series with a user-defined Modbus/TCP address.
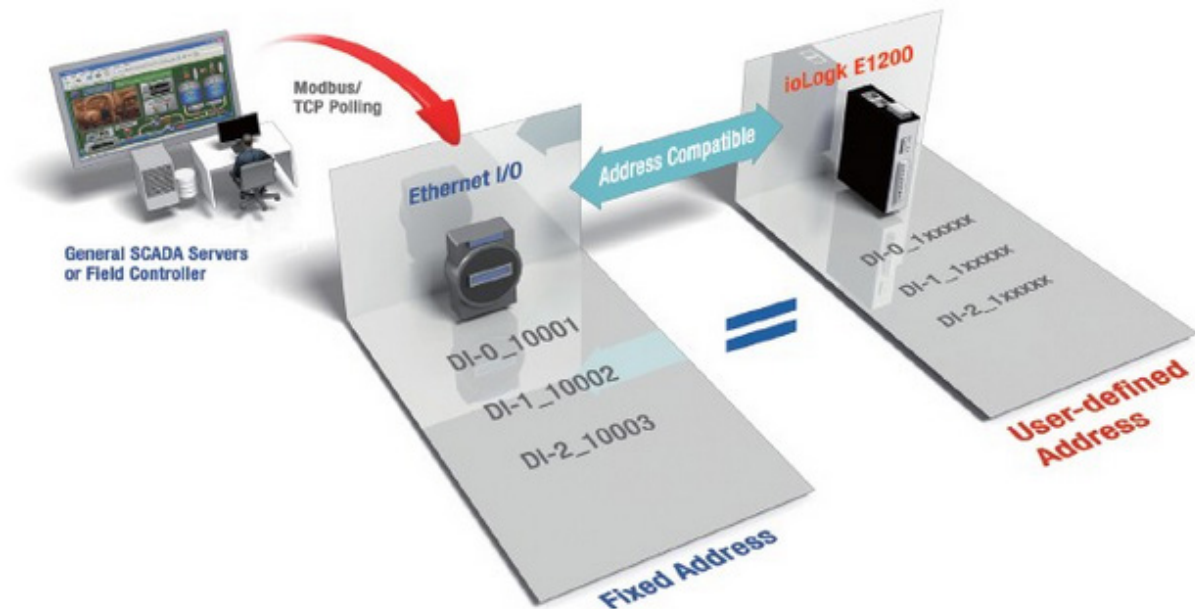
For Modbus devices that are controlled and detected by fixed addresses, you may need to spend a large amount of time researching and verifying the configurations. You need to locate each device's networking details, including I/O channels and vendor-defined addresses, to enable the initial or start address of a SCADA system or PLC. The ioLogik E1200, with user-definable Modbus/TCP addressing, offers greater flexibility and easier setup. Instead of worrying about individual devices, you simply configure the function and address map to fit your needs.

Setting Up a User-Defined Modbus/TCP Address

1. Connect to the ioLogik E1200 Series
   Open your web browser and enter the IP address of the ioLogik E1200 Series to open the ioLogik's web console (Default IP: 192.168.127.254).

2. Expand the "-User-defined Modbus Addressing" page and select the "Digital Inputs/Outputs" page. In this tech note, we use the E1212 to illustrate. The model name and other items shown in the interface will depend on the I/O channels supported by the product you are using. For example, for the ioLogik E1241, you would look at the "Analog outputs" page.

User-defined Modbus Addressing

☑ Enable Modbus/TCP Slave Protocol

No.	Description	User-defined Start Address (DEC)
1	DO Value	0008
2	DO Pulse Status	0016
3	DO Value All Channel (Ch0-Ch7)	0032
4	DI Value	0000
5	DI Counter Value (Double Word)	0016
6	DI Value All Channel (Ch0-Ch15)	0048
7	DI Counter Start/Stop	0256
8	DI Counter Reset	0272
9	P2P Connect Status	4096
10	P2P Output Safe Flag	4112
11	Clear P2P Output Safe Flag	4128
12	Clear Watchdog Alarm	4144

3. Two parameters on the user-defined Modbus/TCP address page can be configured: Start Address and Function Code. Configure the parameters to be compatible with your own mapping.

User-defined Modbus Addressing

☑ Enable Modbus/TCP Slave Protocol

No.	Description	User-defined Start Address (DEC)	Function Code	Read/Write	Reference Address (DEC)	Total Channels	Data Type
1	DO Value	0000	01:COIL STATUS	RW	00001	8	1 bit
2	DO Pulse Status	0016	01:COIL STATUS	RW	00017	8	1 bit
3	DO Value All Channel (Ch0-Ch7)	0032	03:HOLDING REGISTER	RW	40033	1	1 WORD
4	DI Value	0000	02:INPUT STATUS	R	10001	16	1 bit
5	DI Counter Value (Double Word)	0016	04:INPUT REGISTER	R	30017	16	2 WORD
6	DI Value All Channel (Ch0-Ch15)	0048	04:INPUT REGISTER	R	30049	1	1 WORD
7	DI Counter Start/Stop	0256	01:COIL STATUS	RW	00257	16	1 bit
8	DI Counter Reset	0272	01:COIL STATUS	RW	00273	16	1 bit
9	P2P Connect Status	4096	02:INPUT STATUS	R	14097	8	1 bit
10	P2P Output Safe Flag	4112	02:INPUT STATUS	R	14113	8	1 bit
11	Clear P2P Output Safe Flag	4128	01:COIL STATUS	RW	04129	8	1 bit
12	Clear Watchdog Alarm	4144	01:COIL STATUS	RW	04145	1	1 bit
13	DO PulseCount	0036	03:HOLDING REGISTER	RW	40037	8	1 WORD
14	DO PulseOnWidth	0052	03:HOLDING REGISTER	RW	40053	8	1 WORD
15	DO PulseOffWidth	0068	03:HOLDING REGISTER	RW	40069	8	1 WORD

4. After completing the configuration, scroll down to the bottom of the page and select "submit" to submit the configuration into the device.

18	Model Name	5000
19	Device Name	5040
20	Device Up Time	5020
21	Firmware Version	5029
22	Firmware Build Date	5031
23	Mac Address	5024
24	IP Address	5027

Submit   Load Default

If the settings are okay, you will receive a notification telling you to restart the device to activate the new configuration. If the system detects duplicate addresses, you will receive a warning indicating that the configuration includes duplicate addresses. Click "Back" and then modify the settings so that the addresses are unique.

Warning: Duplicate user-defined Modbus addresses -> No. 1: DO Value

Back   Home

Restoring the Default Address Settings

If you would like to discard all of your settings and restore the device to the factory default address settings, click the "Load Default" button at the bottom of the page. You will receive a notification telling you to restart the device to apply the new configuration.

19	Device Name	
20	Device Up Time	
21	Firmware Version	
22	Firmware Build Date	
23	Mac Address	
24	IP Address	

Submit   Load Default

Referencing the Default Address Settings

If you would like to reference the default factory address and function code settings, click on "Default Address" under Main Menu.

- Main Menu - E1212
  Overview
  - Network Settings
  - User-defined Modbus Addressing
    Digital Inputs/Outputs
    Default Address
  - AOPC Server Settings
  - I/O Settings
  - Peer to Peer Settings
  - SNMP Settings
  - RESTful Settings
  - EtherNet/IP Settings
  - System Management
  Change Password
  Load Factory Default
  Save/Restart