EtherNet/IP Scanner Configuration for the Moxa MGate 5105-MB-EIP

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Contents

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1. Introduction

This document describes the configuration of a Moxa MGate gateway as an EtherNet/IP Scanner and the EDS-405A as an EtherNet/IP adapter. For the Modbus TCP setup, connect a Modscan32 simulator as a Modbus TCP master with 20 digital inputs.

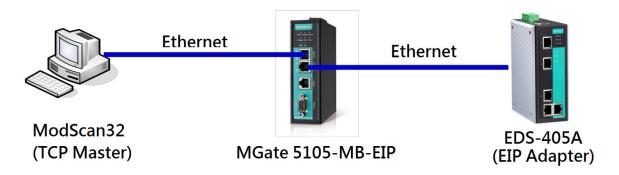## 2. Applicable Products

Product Line	Model Names
MGate 5000 series	MGate 5105-MB-EIP, MGate 5105-MB-EIP-T

3. System Requirements

Description	Model Names	Version
Moxa EtherNet/IP to Modbus gateway	MGate 5105-MB-EIP	1.1
5-port entry-level managed Ethernet switch	EDS-405A	1.1
Software utility to configure Moxa devices	MGate Manager	1.9
Modscan32		7.A00

4. System Overview

In this document, the MGate 5105-MB-EIP is used as an example. The system architecture is shown in the following figure.
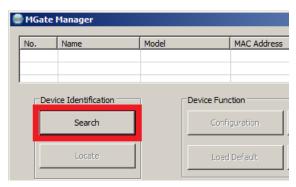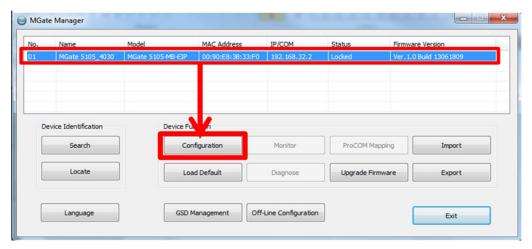
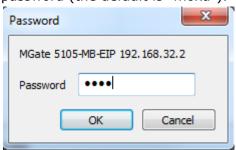## 5. Configuring a Moxa PROFIBUS Device Using MGate Manager

1. Start MGate Manager and click **Search** to find the Moxa MGate 5105-MB-EIP.
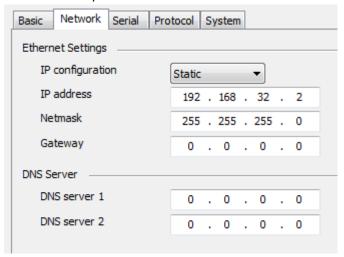

2. Select the target device and click **Configuration**.

3. MGate Manager may prompt you for a password. In the **Password** screen, enter a password (the default is "moxa").

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4. Select the **Network** tab to configure the IP address of the MGate 5105-MB-EIP. In this example, the IP address setting for the MGate 5105-MB-EIP is 192.168.32.2/255.255.255.0.

5. Select the **Protocol** tab to configure the protocol conversion settings.
   a. In the Protocol Conversion screen, select the protocol to be converted from the **Protocol selection** drop-down list.
   In this example, **EtherNett/IP <-> Modbus TCP** is selected.

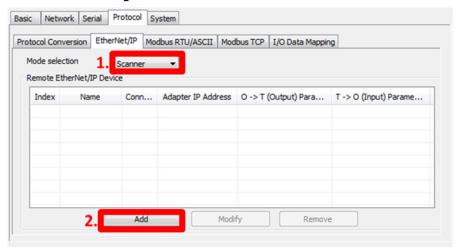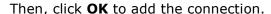b. In the **EtherNet/IP** screen, configure the EtherNet/IP settings. In this example, since the EDS-405A is the EtherNet/IP Adapter, select **Scanner** from the **Mode selection** drop-down list for the MGate 5105-MB-EIP and click **Add** to add connection settings.
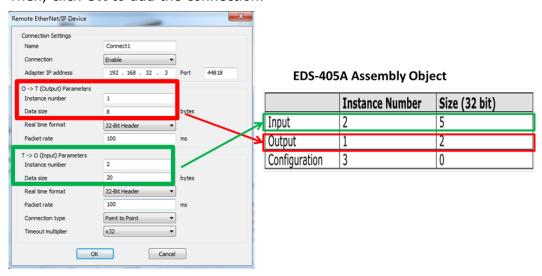
For this example, Input (T → O) refers to data (such as information and status report to the originator for monitoring) that is produced by the switch. Output (O → T) refers to the data that is generated by the originator (remote host) and is used by the switch.

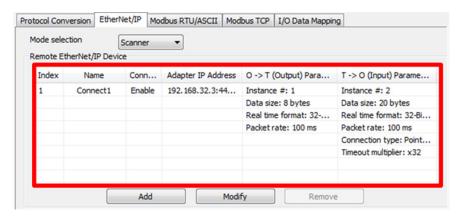The following figure shows an example for the EDS-405A assembly object. Based on the assembly object, set the following fields:

- **O → T (Output) Parameters:** Enter **1** in the **Instance Number** field and **8** in the **Data size** field.
- **T → O (Input) Parameters:** Enter **2** in the **Instance Number** field and **20** in the **Data size** field.

Then, click **OK** to add the connection.

c. In this example, since ModScan is a Modbus TCP Master, configure Modbus settings in the **Modbus TCP** tab as shown in the following figure.
   • **Mode selection:** Select **Slave** from the drop-down list.
   • **Slave ID:** Enter "1" for MGate 5105-MB-EIP.
   • **TCP port:** Enter "502".

d. Click **OK** to save the changes. The MGate 5105-MB-EIP automatically restarts to use the new settings.

6. Communication Test: Monitoring I/O Data

1. Execute the Modsca function on the PC to simulate data exchange from the Modbus TCP master to the MGate 5105-MB-EIP.

The test reads data from the EIP Adapter and monitors the power status. The following figure shows the attribute list for the EDS-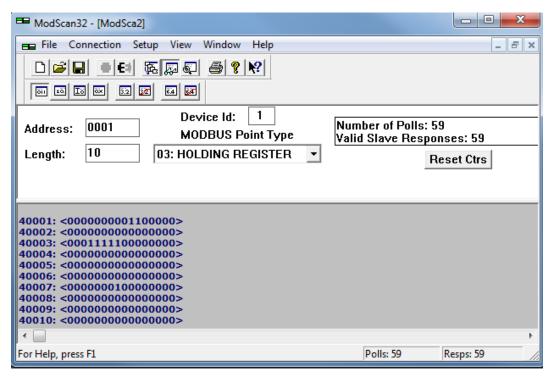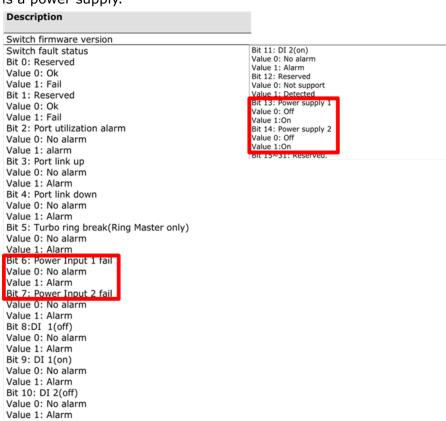405A. The values of bits 6 and 7 become 1 when input power fails. The values of bits 13 and 14 become 1 when there is a power supply.
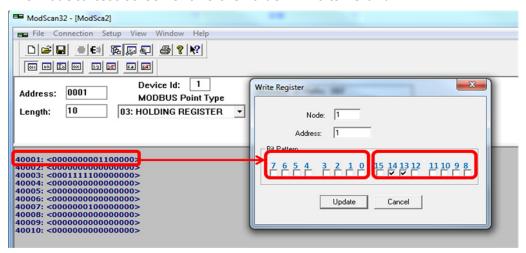
Description

Switch firmware version
Switch fault status
Bit 0: Reserved
Value 0: Ok
Value 1: Fail
Bit 1: Reserved
Value 0: Ok
Value 1: Fail
Bit 2: Port utilization alarm
Value 0: No alarm
Value 1: alarm
Bit 3: Port link up
Value 0: No alarm
Value 1: Alarm
Bit 4: Port link down
Value 0: No alarm
Value 1: Alarm
Bit 5: Turbo ring break(Ring Master only)
Value 0: No alarm
Value 1: Alarm
Bit 6: Power Input 1 fail
Value 0: No alarm
Value 1: Alarm
Bit 7: Power Input 2 fail
Value 0: No alarm
Value 1: Alarm
Bit 8:DI 1(off)
Value 0: No alarm
Value 1: Alarm
Bit 9: DI 1(on)
Value 0: No alarm
Value 1: Alarm
Bit 10: DI 2(off)
Value 0: No alarm
Value 1: Alarm

Bit 11: DI 2(on)
Value 0: No alarm
Value 1: Alarm
Bit 12: Reserved
Value 0: Not support
Value 1: Detected
Bit 13: Power supply 1
Value 0: Off
Value 1:On
Bit 14: Power supply 2
Value 0: Off
Value 1:On
Bit 15~31: Reserved.

2. At first, both power supplies are used by the EDS-405A.

The ModSca test screen shows the value **1** in bits 13 and 14.

3. Power supply 1 is turned off on the EDS-405A.

In the ModSca test screen, the value of bit 13 becomes 0, bit 6 becomes 1 (to indicate power input failure), and the alarm bit is 1.