Moxa Tech Note

MGate EIP 3000 Series to connect RSLinx with the Allen-Bradley SLC 500/Micrologix family

Moxa Technical Support Team
support@moxa.com

Introduction

The Rockwell Automation Allen-Bradley SLC 500/Micrologix family provides a proven approach for industrial control. Different SLC 500/Micrologix products may use different protocols for communication, some may use EtherNet/IP while others use the DF1 protocol. MOXA's MGate EIP 3000 Series serves as a gateway for the SLC 500/Micrologix family using either EtherNet/IP or the DF1 protocol.

The following section demonstrates the configuration of the MGate EIP 3270 to enable communications between RSLinx and the SLC 5/03 or the SLC 5/05.

Moxa's Solution

The MGate EIP 3000 series provides serial to Ethernet connectivity between DF1 and EtherNet/IP protocols.

In the diagram below, the RS-232 port of the SLC 5/05 is connected to serial port 1 of the MGate EIP 3270 using the DF1 protocol. On the SLC 5/03, the RS-232 port is connected to the MGate EIP 3270, using the DF1 protocol. The Ethernet port of the SLC 5/05 is connected to the LAN directly, using the EtherNet/IP protocol.

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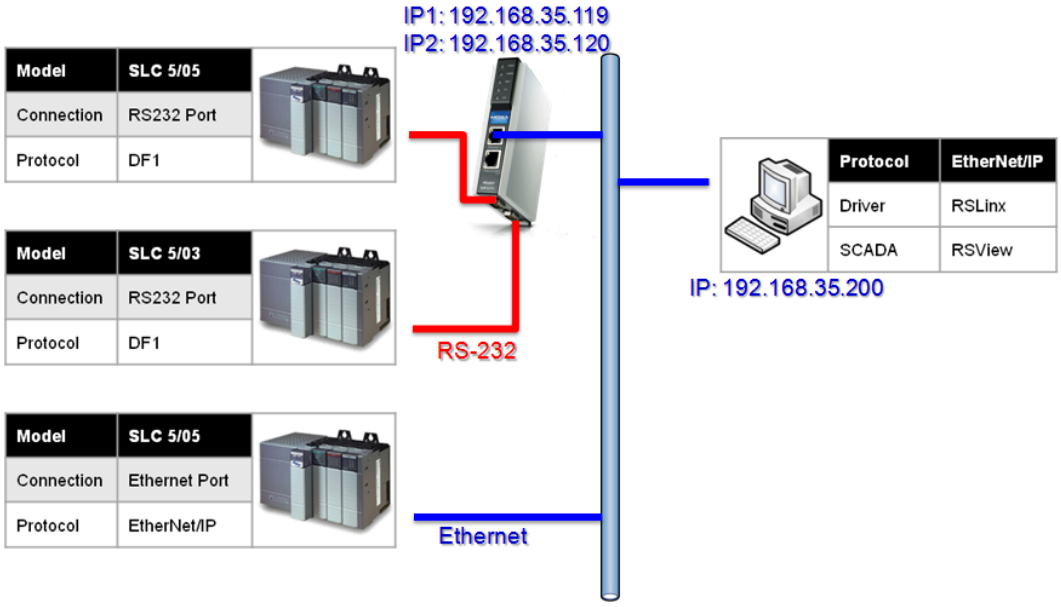
About Moxa

Moxa manufactures one of the world's leading brands of device networking solutions. Products include serial boards, USB-to-serial hubs, media converters, device servers, embedded computers, Ethernet I/O servers, terminal servers, Modbus gateways, industrial switches, and Ethernet-to-fiber converters. Our products are key components of many networking applications, including industrial automation, manufacturing, POS, and medical treatment facilities.

How to Contact Moxa

Tel: +886-2-8919-1230 Web: www.moxa.com
Fax: +886-2-8919-1231 Email: info@moxa.com



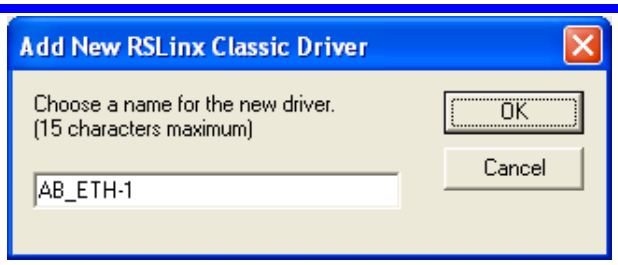
When installing the MGate EIP 3270, MGate Manager is used as the configuration tool on the host PC. The MGate EIP 3270 has an IP address for each of its Ethernet uplink ports. EtherNet/IP commands received by port IP1 will be routed to serial port 1, which is connected to the SLC 5/05. And commands received by port IP2 will be relayed to serial port 2, which is connected to the SLC 5/03. Default settings meet the requirement so we don't need to change it.

The RSLinx is an interface for SCADA software (RSView) to communicate with different devices that may use different protocols. MOXA provides two solutions for RSLinx to communicate with a DF1 device via the MGate EIP 3000 series:

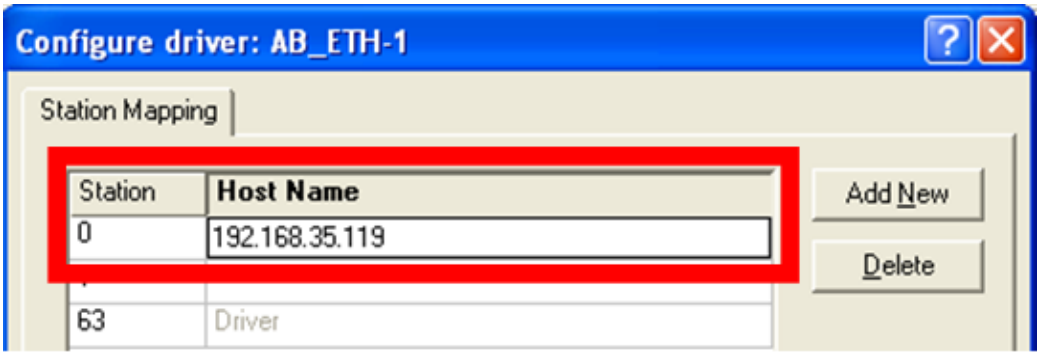
- EtherNet/IP protocol
- DF1 protocol

Using the EtherNet/IP protocol:

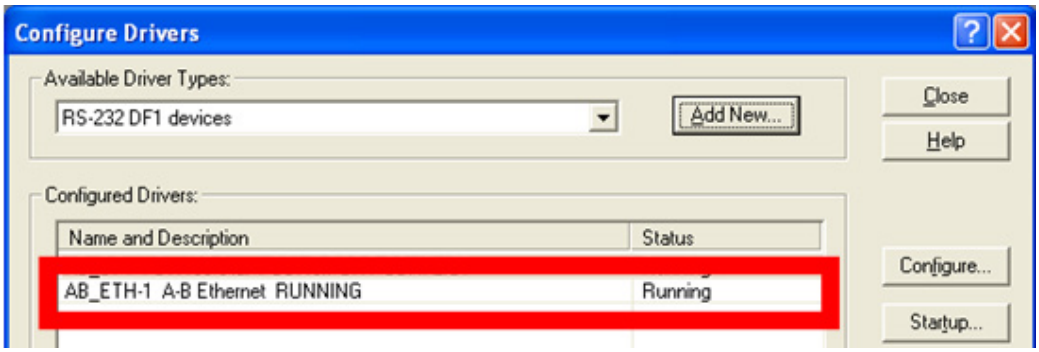
1) First, to configure RSLinx, add a new driver for the MGate EIP 3270. Please choose **Ethernet devices** as the driver type. Then input a name for it, the default name is AB_ETH-1.



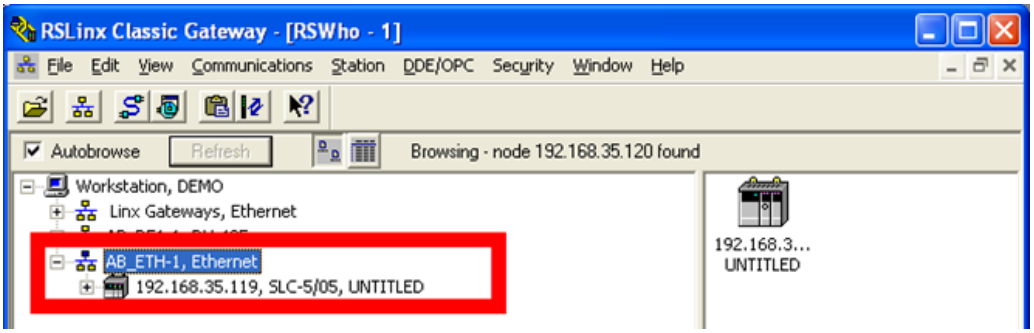
2) To configure the driver, please input the IP address of the MGate EIP 3270. The IP1 port of the MGate EIP 3270 is used for serial port 1, which is the RS-232 port of the first SLC 5/05 in this example.



3) When finished, you can see the status of the driver you just configured:

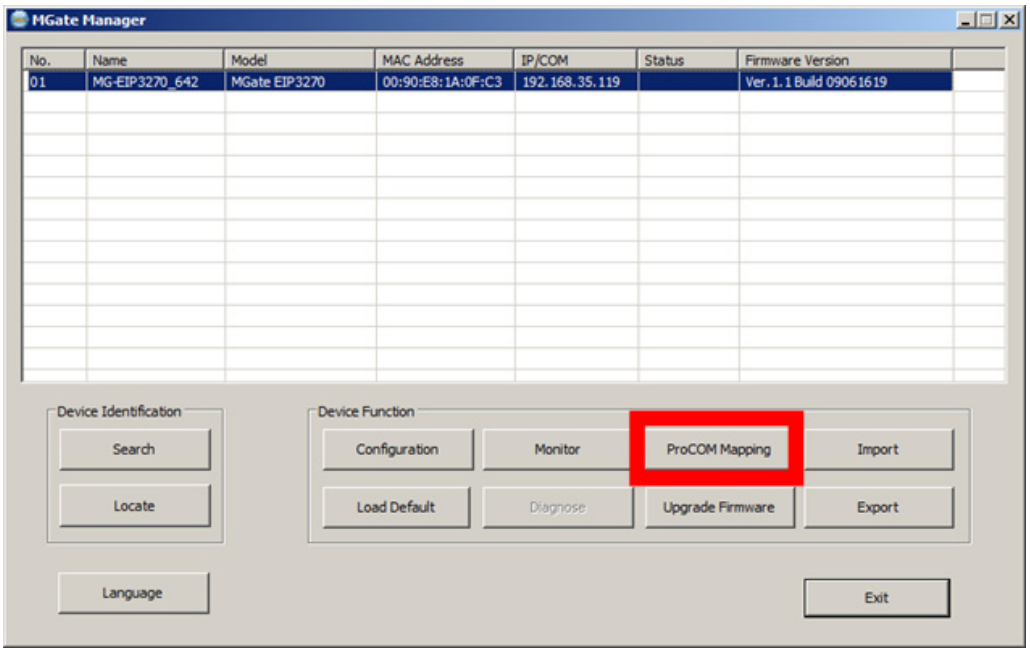


4) In RSLinx, we can execute RSWho to verify if the driver is working properly.

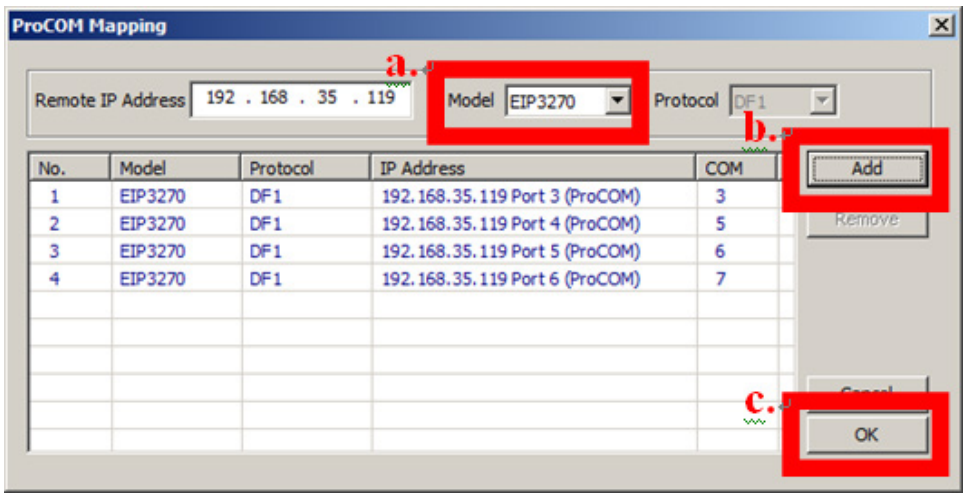


Using the DF1 protocol:

1) MGate EIP 3270 provides a ProCOM function to support RSLinx by using the DF1 protocol over Ethernet to communicate with a Rockwell Automation Allen-Bradley SLC 500/Micrologix family. To enable it, please run the MGate Manager on the host PC. **Select** the MGate EIP 3270 and then click the **ProCOM Mapping** button:

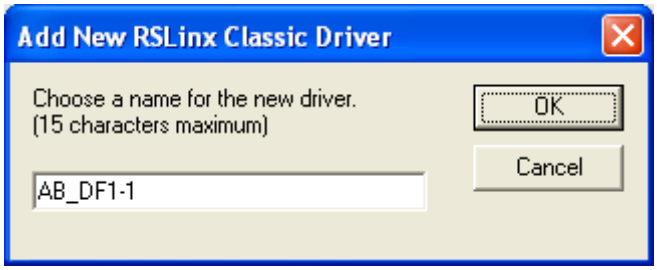


2) To configure ProCOM:
   a. Choose the model name (it's EIP 3270 in this case)
   b. Click **Add** button and you will see the 4 default ProCOM ports
   c. Click **OK** to finish it

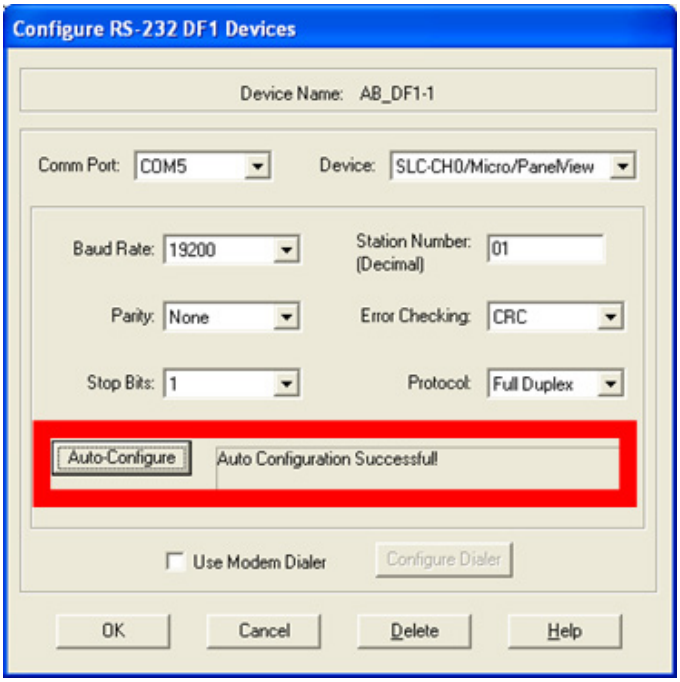


In this example, the requests to port 3 of MGate EIP 3270, which is also COM 3 of the host PC, will be passed to serial port 1 of the MGate EIP 3270. Port 4 of the MGate EIP 3270 (COM 5 of the host PC) will be passed to serial port 2 of the MGate EIP 3270.

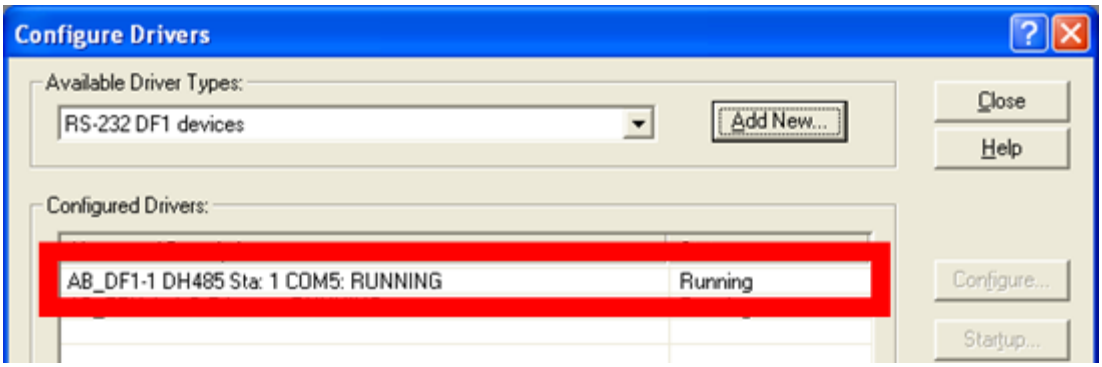
3) After configuring the ProCOM function, we can apply the settings to RSLinx. Please add a new driver for **RS-232 DF1 devices** as the device type, then give it a name, default name is AB_DF1-1.



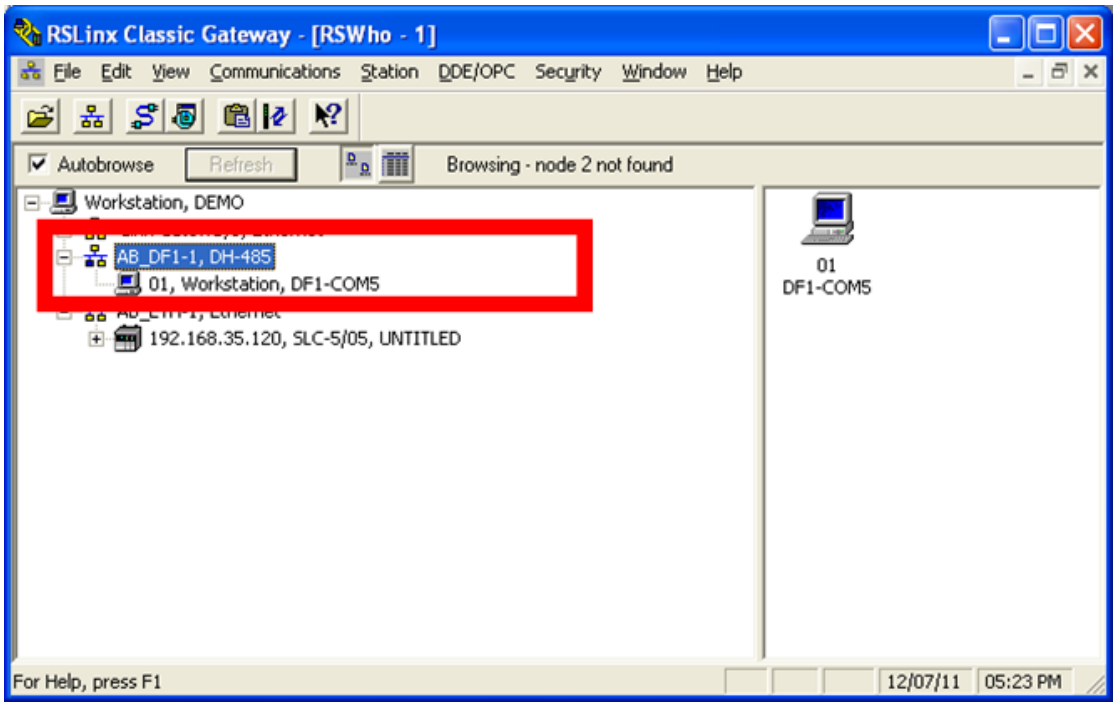
4) To configure the serial parameters, select the COM port (COM 5 on the host PC), device name, baudrate, and other serial parameters. Or you may click **Auto-Configure** to let RSLinx detect them automatically.



5) When finished, you can see the status of the driver you just configured.



6) In RSLinx, we can execute RSWho to verify that the driver is working properly.



Why Moxa

- Easy configuration when setting up the MGate EIP 3000 Series
- PCCC project for Rockwell Automation networks supported
- Use ProCOM via COM port mapping

Related Products

MGate EIP 3000 Series.