

Using the Lantronix UDS1100-IAP Ethernet-to-Serial Converter with the RMC150E

This device can convert serial Modbus/RTU to Ethernet Modbus/TCP, allowing the RMC150E to communicate with a serial device. The serial device must support Modbus/RTU.

This device cannot convert serial DF1 to CSP (Allen-Bradley Ethernet), nor can it convert any other protocols.

With Modbus/RTU to Modbus/TCP

If the RMC150E Ethernet port will only be connected to the UDS1100-IAP, do the following:

1. **Connect Cables**
 - a. Connect the Lantronix 500-163 cable's DB25 connector to the Lantronix.
 - b. Connect a null-modem DB9 cable from the serial device to the DB9 connector on the Lantronix 500-163 cable's DB9 connector. You may need to use gender changers. Null-modem means pins 2 and 3 are crossed over, and pin 5 is straight through.
 - c. Connect the UDS1100-IAP to the same Ethernet network as your computer.
2. **Install the Lantronix Device Installer Software**

As per the instructions in the UDS1100 Quick Start Guide.
3. **Assign IP Settings to UDS1100-IAP**

In Lantronix Device Installer, assign an IP address to the UDS1100-IAP as per the instructions in the UDS1100 Quick Start Guide. Set the IP address to **192.168.0.1** and the subnet mask to **255.255.255.0**.
4. **Install the Modbus Firmware**
 - a. In Lantronix Device Installer, on the **Device** menu, choose **Upgrade**.
 - b. Choose **Create Custom**, and click **Next**.
 - c. Browse to the Modbus Bridge firmware file (amaua_3001.rom). It is probably located on the CD under "IAP_Suite/Modbus Bridge".
 - d. Click **Next**.
 - e. Choose **No other files** and click **Next** twice.
5. **Configure the UDS1100-IAP**
 - a. In Lantronix Device Installer, click the **Telnet Configuration** tab.
 - b. Click **Connect**, then press Enter for Setup Mode.
 - c. Press 1 to set the IP settings.
 - i. Set the IP Address to 192.168.0.1.
 - ii. Do not set the Gateway IP Address.
 - iii. Set the Netmask to 255.255.255.0.
 - iv. Do not set the telnet config password.
 - d. Press 2 to set the Serial settings.
 - i. Set the Attached Device to 2 (=Master).
 - ii. Set the Serial Protocol to 1 (=Modbus/RTU).
 - iii. Set the Interface Type to 1 (=RS232).
 - iv. Enter the serial parameters. 38400,8,N,1 is common. Make sure these settings are identical to your serial device.
 - e. Press 5 to route the unit ID to the IP Address.
 - i. Press Enter to leave the Close Idle TCP sockets at the default value.
 - ii. Press Enter to leave the Redundant Entry Retries at the default value.

- iii. Press A to add.
 - iv. Set the "Modbus addr from" to 1.
 - v. Set the "Modbus addr to" to 255.
 - vi. Set the "Slave IP address" to 192.168.0.150.
 - f. Press S to save the settings.
6. **Assign the RMC150E IP Settings**
- a. In RMCTools, in the Ethernet settings, choose **Use the following IP address** and set the following:
 - i. IP Address: **192.168.0.150**
 - ii. Subnet Mask: **255.255.255.0**
 - iii. Default Gateway: leave this blank
 - b. Apply the RMC150E Ethernet settings and update Flash. At this point, the 10/100 Mb Link LED on the UDS1100-IAP should be solid green.
7. **Start Communicating**
- Remove the UDS1100-IAP from the Ethernet network and connect an Ethernet cable directly from the UDS1100-IAP to the RMC150E. Communications should start as soon as the serial device starts communicating.