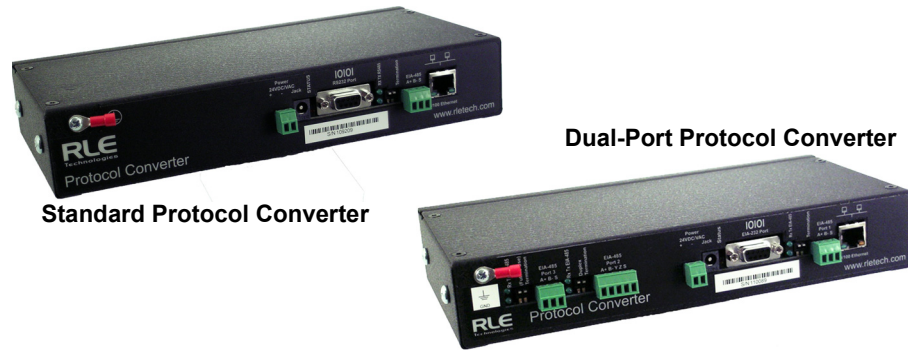


# Protocol Converter Quick Start Guide



Standard Protocol Converter

Dual-Port Protocol Converter

Thank you for purchasing the FDS-PC Protocol Converter. This guide describes how to install the Protocol Converter.

If you need further assistance, contact RLE Technologies on our website at <http://www.rletech.com/> (go to the **Support Link**) or by calling **970.484.6510, Option 2.**



## 1 Pre-Installation

### Information You Need

Consult with your IT administrator to determine the following network settings for the Protocol Converter:

- ◆ IP address \_\_\_\_\_
- ◆ Subnet mask \_\_\_\_\_
- ◆ Default gateway \_\_\_\_\_

### Supplies You Need

- ◆ 18 AWG shielded, twisted-pair stranded copper wire for EIA-485 Modbus RTU communication. RLE recommends no more than 2,000 feet (609.6m) of wire at this specification. If longer runs are needed, contact RLE Technologies for application guidance.
- ◆ Straight-through CAT5 cable for network connectivity.
- ◆ Straight-through, nine-pin serial cable (temporary connection; only as necessary).
- ◆ 18 – 22 AWG ground wire.
- ◆ Electrostatic discharge (ESD) protection.

## 2 Mounting the Protocol Converter

The Protocol Converter comes in a 19-inch (.48m), rack-mount enclosure. Rack-mount brackets and hardware are included.

- 1 Attach the brackets to the sides of the Protocol Converter using the hardware provided.
- 2 Install the Protocol Converter in the rack.
- 3 Use the proper anchoring method to mount the unit securely.

## 3 Wiring the Protocol Converter

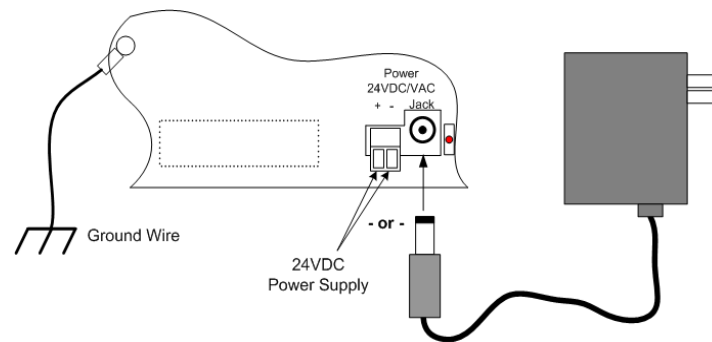
Connect the wiring for the Protocol Converter as described in the following subsections.

**IMPORTANT** Before connecting any wiring, be sure to take precautions to protect the Protocol Converter from electrostatic discharge.

### Power Supply and Ground Connections

- 1 Connect power to the Protocol Converter in one of two ways:
  - a Plug the wall adapter (provided) into the power jack on the Protocol Converter and into a UPS outlet.
  - b Connect a dedicated 24VDC power supply to the + and - terminals to the left of the power jack.
- 2 Connect an 18 – 22 AWG ground wire (not included) to the Protocol Converter's ground lug and to a suitable earth ground.

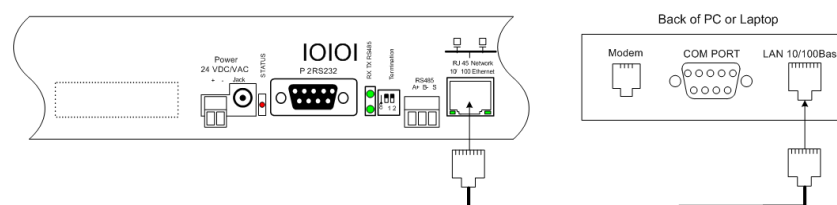
**Note:** RLE Technologies recommends powering the Protocol Converter from a UPS (uninterruptible power supply) so the Protocol Converter can send alarm notifications during a power outage.



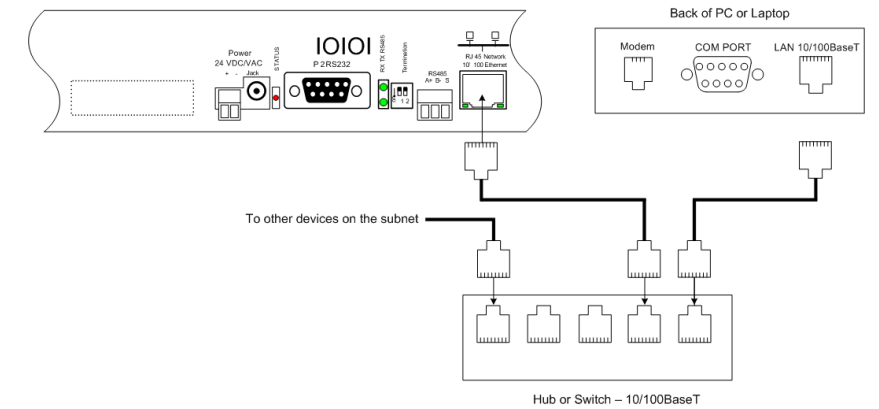
### RJ45 Ethernet Connection

The Protocol Converter has an internal 10/100BaseT Ethernet port used to configure the Protocol Converter. The Ethernet port supports Web browser access, BACnet, Modbus, SNMP, and SMTP (email).

Direct connection between the Protocol Converter and a computer or laptop using the crossover cable (provided):



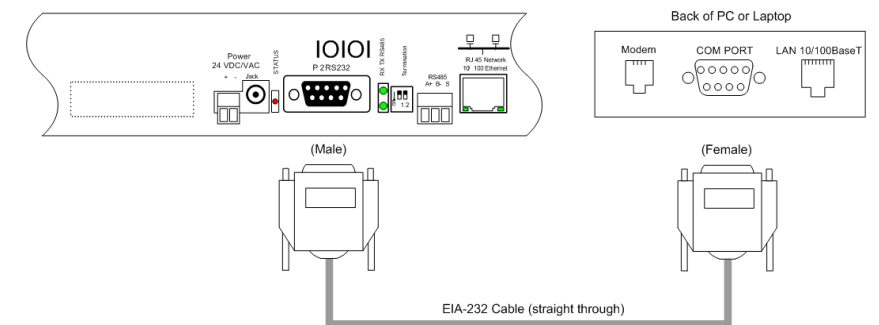
Typical Protocol Converter connection on a subnet using a hub or switch and straight-through CAT5 cables:



### EIA-232 COM Connection

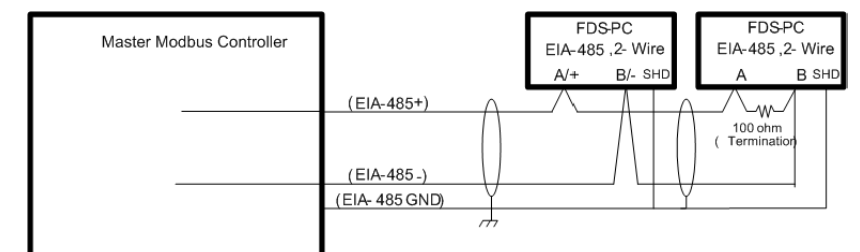
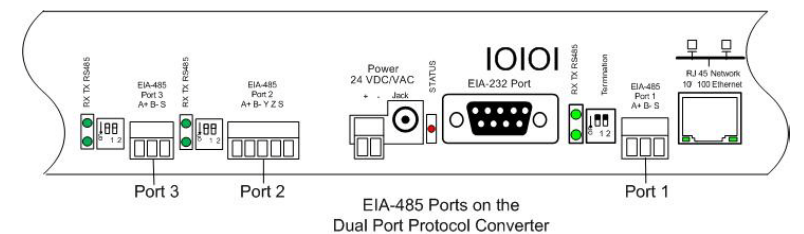
The EIA-232 port can be connected to a PC for IP configuration, firmware downloads, and troubleshooting. The EIA-232 is typically only used as a temporary connection.

Connect the straight through, 9-pin, serial cable:



### Modbus EIA-485 Connections

The Protocol Converter can function as a Modbus Slave or Modbus Master over an EIA-485 hardware connection. The Dual Port Protocol Converter has two 2-wire and one 2- or 4-wire EIA-485 ports for extended Modbus communication over multiple trunk lines.

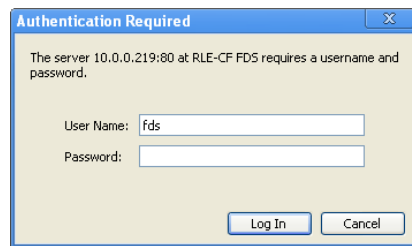


## 4 Setting the IP Address

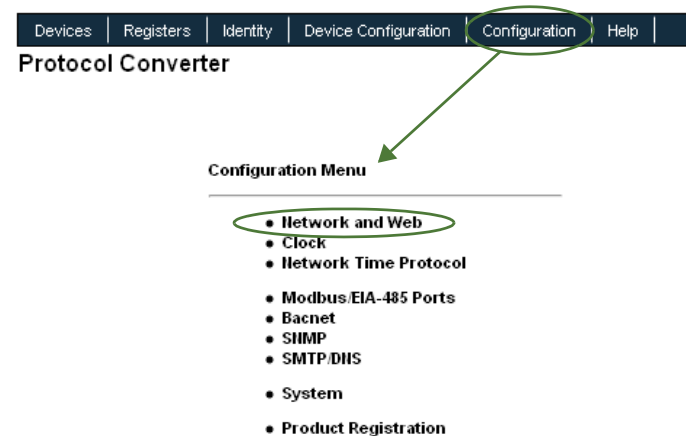
The Protocol Converter will not communicate over a user's network the first time it is connected to the network. At the factory, the Protocol Converter is set with a default IP address of 10.0.0.188 and Subnet Mask: 255.255.255.0.

You must change this default address to an IP address that corresponds with your network before the Protocol Converter can communicate over the network. Use a Web browser to change the IP address as described here.

- 1 Plug the crossover network cable (included) into the laptop or workstation that will be used to configure the Protocol Converter.
  - 2 Write down the computer's current IP address and Subnet Mask.
- IMPORTANT** You will need to change the computer's IP address and Subnet Mask back to the original settings after changing the IP address and Subnet Mask for the Protocol Converter.
- 3 Change the IP address and Subnet Mask of the computer from its existing address to one that will allow it to communicate with the Protocol Converter, such as 10.0.0.180.
- Note:** It may be beneficial to set the IP address to one that is one number different from the Protocol Converter's IP address. Consult the computer's manual or your IT department before attempting this procedure.
- 4 Connect the other end of the network cable to the Ethernet port on the back of the Protocol Converter.
  - 5 Access the Protocol Converter through a Web browser by typing the IP address (10.0.0.188) into the location bar.
  - 6 When prompted, enter the Protocol Converter user name (fds). There is no default password; leave this field blank.



- 7 Select the **Configuration** link from the top bar, then select the Network and Web link from the Configuration menu.



- 8 On the Network and Web page, change the IP address, Subnet Mask (Net Mask), and Default Gateway (Def Route) to one provided by your network administrator.

- 9 Press the **Submit Changes** button.
- The Protocol Converter saves the new IP address, Subnet Mask, and default Gateway and then reboots.
- 10 Change the IP address of the computer back to its original IP address.
  - 11 If the computer was configured as DHCP (the network domain controller assigns an IP address), return it to this state. This procedure might require assistance from your IT department, or you might need to consult the computer's manual.
- The computer and the Protocol Converter are both configured to communicate on the network. Both should be accessible via the network.

## 5 Completing the Configuration

Once you have completed the tasks in this quick start guide, the Protocol Converter can communicate over the network and over any of the other communication ports you have connected. You must perform additional tasks to configure the devices attached to the Protocol Converter.

### Accessing the User Guide

Consult the *Protocol Converter User Guide* at <http://www.rletech.com/resources> for information about completing these additional tasks:

- ◆ General configuration
- ◆ Device configuration
- ◆ Registers setup

### Registering the Protocol Converter

Go to <http://www.rletech.com/product-registration.html> and enter the requested information. Click the Register button to register your product.