ROCKET*LINX* ES7510

Industrial 10-Port Gigabit Managed PoE Plus Switch

Quick Installation Guide

Introduction

The RocketLinx ES7510 is ten port PoE managed switch that provides:

- ▸ Eight 10/100BASE-TX PoE ports that are IEEE 802.3af (15.4W) and 802.3at (30W) compliant with a forced powering feature to support non-standard Power Devices (PDs)
- ▸ Two Gigabit (10/100/1000BASE-TX) uplink ports

The RocketLinx ES7510 provides features needed for network control and security in an industrial network environment. *See the Comtrol web site for detailed product specifications.*

Installation Overview

You can use the following overview to install the RocketLinx ES7510. If you need more detailed information, you can refer to the *RocketLinx ES7510 User Guide*, which contains detailed installation and configuration information.

Connect the Power

The RocketLinx ES7510 provides redundant power inputs (PWR 1/2).

1. Insert positive and negative wires (12-24AWG) into V+ and V- contacts.
   Note: Power should be disconnected from the power supply before connecting it to the switch. Otherwise, your screwdriver blade can inadvertently short your terminal connections to the grounded enclosure.

2. Tighten the wire-clamp screws to prevent the wires from coming loose.

   - ▸ PWR1 and PWR2 support power redundancy and reverse polarity protection.

   - ▸ If both power inputs are connected, the RocketLinx ES7510 is powered from the highest connected voltage.

Electrical Specifications		Value
Power Input Voltage DC1/DC2	802.3af	48-57VDC
	802.3at	50-57VDC
Maximum PoE Power/Port	802.3af	15.4W
	802.3at	30W
Power Budget	DC1/DC2	200W
Total Power Budget		Up to 200W
Power Consumption	Without PD load (max.)	28W
	802.3af (max.)	144W
	802.3at (max.)	262W

3. Connect a ground wire between the chassis and earth ground to ensure that the RocketLinx ES7510 is not damaged by noise or electrical shock.

a. Loosen the earth ground screw on the right side of the RocketLinx ES7510.

b. Tighten the screw after the earth ground wire is connected.

Mount the ES7510

You can use the following procedure to mount the RocketLinx ES7510 on the wall.

Attach the mounting brackets to the RocketLinx ES7510 by using the screws provided in the bracket mounting kit.

To avoid damage to the RocketLinx ES7510 circuitry, make sure that you use the screws included in the bracket mounting package to attach and tighten the brackets onto the RocketLinx ES7510. The screws are M3 screws and are 6 mm in length.

The RocketLinx ES7510 will disperse heat through the metal case during PoE port operation. The RocketLinx ES7510 should be installed and mounted onto a panel that provides good heat dispersion.

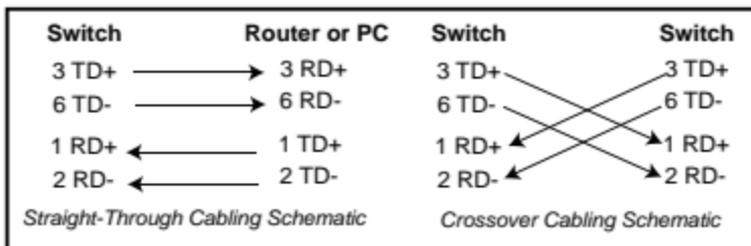**Connect the Ethernet Ports**

You can use the following information to connect standard Ethernet cables between the RocketLinx ES7510 10/100BASE-TX Ethernet ports and the network nodes. The Fast Ethernet ports support 10BASE-T and 100BASE-TX, full- or half-duplex modes.

The gigabit Ethernet ports support 10BASE-T, 100BASE-TX, and 1000BASE-TX. Ports 1-8 are Fast Ethernet 10/100BASE-TX PoE ports that are IEEE802.3af (PoE) and IEEE802.3at (PoE Plus) compliant. The following table shows the RJ45 PoE pin-out assignments.

1000BASE-TX		Description
1	BI_DA+	Bi-directional pair A +
2	BI_DA-	Bi-directional pair A -
3	BI_DB+	Bi-directional pair B +
4	BI_DC+	Bi-directional pair C +
5	BI_DC-	Bi-directional pair C -
6	BI_DB-	Bi-directional pair B -
7	BI_DD+	Bi-directional pair D +
8	BI_DD-	Bi-directional pair D -

10/100BASE-TX PoE	
1	RX + and Vport -
2	RX - and Vport -
3	TX + and Vport +
4, 5	NC
6	TX - and Vport +
7, 8	NC

All the Fast Ethernet ports automatically detect the signal from the connected devices to negotiate the link speed and duplex mode. Auto MDI/MDIX allows you to connect another switch, hub, or workstation without changing straight-through or crossover cables. Crossover cables cross-connect the transmit lines at each end to the received lines at the opposite end.

Switch	Router or PC	Switch	Switch
3 TD+ ────→	3 RD+	3 TD+ ⟍	3 TD+
6 TD- ────→	6 RD-	6 TD- ⟍	6 TD-
1 RD+ ←────	1 TD+	1 RD+ ⟋	1 RD+
2 RD- ←────	2 TD-	2 RD- ⟋	2 RD-

Straight-Through Cabling Schematic   *Crossover Cabling Schematic*

The Ethernet cables use Pins 1, 2, 3, and 6 of an 8-pin RJ45 connector. The signals of these pins are converted by the automatic MDIX function, as shown in the following table.

Pin	MDIX Signals	MDI Signals
1	RD+	TD+
2	RD-	TD-
3	TD+	RD+
6	TD-	RD-

Connect one side of an Ethernet cable into any switch port and connect the other side to your attached device. The LINK/ACT LED is lit when the cable is correctly connected. Always make sure that the cables between the switches and attached devices (for example, switch, hub, or workstation) are less than 100 meters (328 feet).

The wiring cable types are as follows:

- 1000BASE-TX: 4-pair UTP/STP Category 5 cable, EIA/TIA-568 100-ohm (100m)
- IEEE 802.3af: 4-pair UTP/STP Category 5 cable, EIA/TIA-568 100-ohm (100m)
- IEEE 802.3at: 4-pair UTP/STP Category 5e / 6 cable, EIA/TIA-568 100-ohm (100m)

Connect the Relay Output

If desired, connect the alarm relay output (DO). The relay contacts are energized (open) for normal operation and close for fault conditions that can be defined using the RocketLinx ES7510 user interface.

Note: The relay contact only supports a maximum of 1A at 24VDC. Do not apply voltage and current that exceeds these specifications.

Maximum Relay Current 1A@24VDC

Extra Alarm Power Source

Alert Device
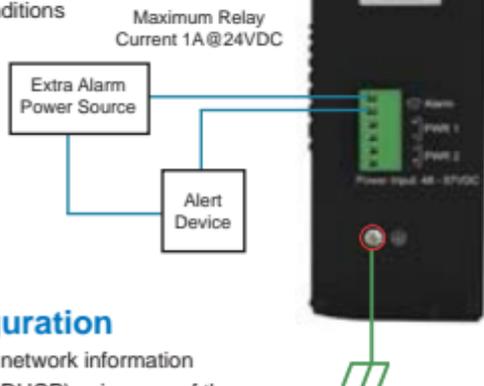
RocketLinx ES7510 Configuration

You can configure the RocketLinx ES7510 network information (IP address, subnet mask, and gateway or DHCP) using one of the following methods:

- ▸ NetVision
- ▸ Web browser
- ▸ Command Line Interface (CLI) using one of these methods:
  - Serial console port by connecting the RS-232 console cable that was shipped with the RocketLinx ES7510 to a system COM port
  - Telnet
  - Secure shell (SSH)

The default IP address of the RocketLinx ES7510 is **192.168.250.250**.

This document discusses using NetVision to program the network information into the ES7510 and a web browser to begin feature configuration. You can refer to the *RocketLinx ES7510 User Guide*, if you want to use one of the other configuration methods.

1. If necessary, install the latest version of the Java Runtime Environment on your PC.
   Note: NetVision is available on the RocketLinx CD or you can download the latest version from the Comtrol ftp site.

2. Copy the NetVision application to a host system with a Windows operating system. Make sure that you note the location as there is no installation wizard or process for NetVision.

3. Start NetVision.

4. Configure the RocketLinx ES7510 IP address for your network.
   a. In NetVision, click the **Discovery** button. After five seconds the RocketLinx ES7510 should be listed.
   b. Highlight the RocketLinx ES7510.
   c. To configure a static IP address, double-click the *IP Address* field and enter a desired IP address.
   d. Double-click the *Netmask* field and enter a desired subnet mask.
   e. Select the **IP Settings/Modify IP** menu item to commit the IP address and Netmask change to the RocketLinx ES7510 switch.

5. Open a web browser and enter the IP address of the RocketLinx ES7510. For example: **http://192.168.250.250** or **https://192.168.250.250**.

6. Click **Run** when Java prompts you to run the applet.

7. Enter *admin* for both the user name and the password when prompted. You can refer to the *RocketLinx ES7510 User Guide* or help system for detailed feature configuration information.

Comtrol Customer Service

Contact Method	Web Address or Phone Number
Support	http://www.comtrol.com/pub/en/support
Downloads	ftp://ftp.comtrol.com/html/ES7510_main.htm
Web Site	http://www.comtrol.com
Phone	763.957.6000