COMTROL®

ROCKET*LINX* ES8520-XT

Industrial 20-Port Managed Switch

QUICK INSTALLATION GUIDE

INTRODUCTION

The RocketLinx ES8520-XT is a 20 port managed industrial switch that provides:

- Sixteen 10/100BASE-TX ports
- Four Gigabit RJ45/SFP combo ports. The SFP ports support 100BASE-FX and Gigabit fiber.

The ES8520-XT provides features needed for network control in an industrial network environment. See the Comtrol website for detailed product specifications and the product warranty.
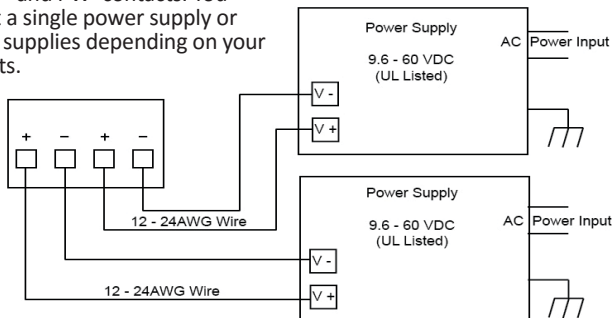
INSTALLATION OVERVIEW

You can use the following overview to install the ES8520-XT. If you need more detailed information, you can refer to the *RocketLinx ES8520-XT User Guide* on the download site, which contains detailed installation and configuration information.

Connecting the Power

The ES8520-XT provides redundant power inputs (PW 1/2), which supports reverse polarity protection, and accepts a positive or negative power source. However, PW1 and PW2 must apply to the same mode.

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.*

1. Insert the positive and negative wires into the PW+ and PW- contacts. You can connect a single power supply or both power supplies depending on your requirements.

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

3. Connect an appropriate ground wire between the chassis ground screw and earth ground to ensure that the ES8520-XT is not damaged by noise or electrical shock.

   a. Loosen the chassis ground screw on the bottom of the unit.
   b. Tighten the screw after the ground wire is connected.
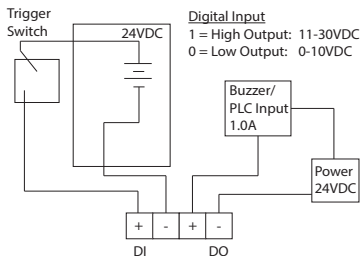
Wiring the Relay Output (DO)

The relay output alarm contacts are on the terminal block connector on the bottom of the ES8520-XT.

The relay contact supports up to 1A at 24VDC.

The relay output (DO) is controlled by the pre-defined operating rules. To activate relay output function, refer to the *RocketLinx ES8520-XT User Guide.*

Wiring the Digital Input (DI)

The Digital Input (DI) contacts are on the terminal block connector on the bottom of the ES8520-XT. The contacts accept one external DC type signal input and can be configured to send alert message through Ethernet when the signal is changed.

The DI accepts DC type signal and supports isolated input circuit with digital high level input 11VDC to 30VDC and digital low level input 0VDC to 10VDC. .

Make sure that you remove the ground screw before insulation/Hi-pot testing.
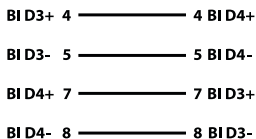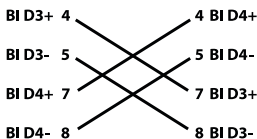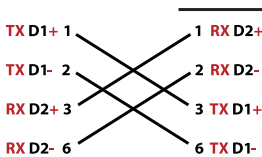
Mounting the ES8520-XT
You can mount the ES8520-XT to a DIN rail.
1. Insert the upper end of DIN rail clip into the back of DIN rail track from its upper side.
2. Lightly push the bottom of DIN rail clip into the track.
3. Verify that the DIN rail clip is tightly attached on the track.

Connecting the Ethernet Ports
The ES8520-XT provides (Ports 1-16) Fast Ethernet 10/100BASE-TX ports and RJ45/SFP combo Gigabit ports (Ports 17-20). The Gigabit Ethernet ports support 10BASE-T, 100BASE-TX and 1000BASE-T. The SFP ports support 100BASE-FX and Gigabit fiber. When an SFP port is active and installed on a combo port, the corresponding RJ45 port is deactivated.

All of the 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.

1000BASE-TX

Straight-Through Cabling

TX D1+ 1	——	1 RX D2+
TX D1- 2	——	2 RX D2-
RX D2+ 3	——	3 TX D1+
RX D2- 6	——	6 TX D1-
BI D3+ 4	——	4 BI D4+
BI D3- 5	——	5 BI D4-
BI D4+ 7	——	7 BI D3+
BI D4- 8	——	8 BI D3-

Crossover Cabling

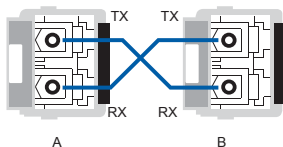|	
TX D1+ 1	1 RX D2+
TX D1- 2	2 RX D2-
RX D2+ 3	3 TX D1+
RX D2- 6	6 TX D1-
BI D3+ 4	4 BI D4+
BI D3- 5	5 BI D4-
BI D4+ 7	7 BI D3+
BI D4- 8	8 BI D3-

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: Cat5c/6 cable
- 10/100BASE-TX: Cat5
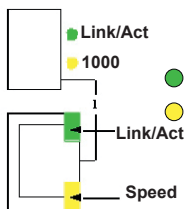
Connecting the SFP Transceivers
You can optionally connect SFP transceivers. Comtrol recommends using Comtrol-approved SFP mini GBIC transceivers. The SFP ports also provide Digital Diagnostic Monitoring, which can assist you in monitoring the quality of the optical signal, and diagnose the transmission. This function is only available for Comtrol certified DDM SFP transceivers, and does not support third party transceivers. Cross-connect the transmit channel at each end to the receive channel at the opposite end as illustrated in the figure.

LED INDICATORS

You can also view the LEDs for the ES8520-XT through the web interface using the *Device Front Panel* page.

LEDs	LED On	LED Blinking	LED Off
Power 1 Power 2	Power On		No Power
Sys (System)	System Operational	System is uploading firmware or the system is rebooting	System not ready
Do (Digital Output)	DO activated		DO not activated
DI (Digital Input)	DI activated		DI not activated
Ring (Ring Master)	Green: Working as a ring master Amber: Ring abnormal	Green: Ring with wrong port Amber: Device's ring port failed	Ring function not enabled

LEDs	LED On	LED Blinking
Link/Act	Indicates the traffic and link status	On: Port is linked to another device. Blinking: The traffic is active Off: Port not connected
Speed	Indicates the copper port link speed	On: Port link is 1000Mbps Off: Port link is 100Mbps or 10 Mbps
1000	SFP transceiver speed indicator	On: The SFP is 1000 Mbps Off: Port link is 100Mbps or 10 Mbps

PROGRAMMING THE IP ADDRESS

Configure the IP address using one of the following methods:

- PortVision DX automatically detects Comtrol Ethernet attached products physically attached to the local network segment so that you can configure the network address, upload firmware, and manage.

- In addition to identifying Comtrol Ethernet attached products, you can use PortVision DX to display any third-party switch and hardware that may be connected directly to those devices. All non-Comtrol products and unmanaged RocketLinx devices are treated as non-intelligent devices and have limited feature support. For example, you cannot configure or update firmware on a third-party switch.
- PortVision DX can be downloaded from http://downloads.comtrol.com/rocketlinx/portvision_dx
- Web browser
- Telnet
- Command line interface (CLI) using the RS-232 console cable

The easiest way to configure a static IP address for your network in the ES8520-XT is to use a Windows host and PortVision DX (see below). For information about using other configuration methods, refer to the *RocketLinx ES8520-XT User Guide.*

The following procedure uses PortVision DX to program network settings.

1. Install PortVision DX on a host system with a Windows operating system. If you need assistance installing PortVision DX, see the *RocketLinx ES8520-XT User Guide.*
2. Start PortVision DX. PortVision DX can be started from **Start --> All Programs --> Comtrol --> PortVision DX.**
3. Click the **Scan** button.
4. Select the Comtrol product families that you want to locate and click the **Scan** button.
5. Right-click the ES8520-XT in the *Device List* pane (lower) that you want to configure and click **Properties.**
6. Enter a user-friendly Device Name, which displays a friendly device name in the *Device List* pane on the main page.
7. Optionally, enter the ES8520-XT serial number.
8. Select **DHCP IP** or **Static IP** for the IP Mode.
    - If you select **DHCP IP**, go to Step 9.
    - If you select **Static IP,** enter an IP address, Subnet Mask, and Default Gateway value for your network.

9. Optionally, select the appropriate **Network Topology**, which is an informational field.
10. Click the **Apply Changes** button.
11. Click **Close** to return to the main screen.

You are now ready to configure the ES8520-XT features.

FEATURE CONFIGURATION

The ES8520-XT provides both in-band and out-band configuration methods:

Out-band management means that you configure the ES8520-XT using the RS-232 console cable and the Command Line Interface (CLI) to access the ES8520-XT without attaching an admin PC to the network. You can also use out-band management, if you lose the network connection to the ES8520-XT.

In-band management means that you connect remotely using the ES8520-XT IP address through the network. You can remotely connect with the web interface or a Telnet console and the CLI.

The following procedure uses a web browser to configure ES8520-XT features. Refer to the User Guide for other configuration methods or configuring features.

1. Open a web browser and enter the IP address of the ES8520-XT.
2. Enter **admin** for both the user name and the password when prompted.
3. Use the web interface to configure your device as needed for your network.

COMTROL CUSTOMER SERVICE

You can use one of the following methods to contact Comtrol.

Contact Method	Web Address or Phone Number
Support	http://www.comtrol.com/support
Downloads	http://downloads.comtrol.com
Website	http://www.comtrol.com
Phone	+1 763.957.6000
Warranty	http://downloads.comtrol.com/html/warranty.htm