COMTROL®

ROCKET*LINX* ES7528

Industrial Managed PoE Plus Switch

QUICK INSTALLATION GUIDE

2000542 Rev C | Release Date - January 2017

INTRODUCTION

The RocketLinx ES7528 is a rack mount high-port density managed PoE switch designed exclusively for highly critical PoE applications such as real-time IP video surveillance with high-resolution quality and evolving wireless communication systems such as Wimax and 802.11 a/b/g/n access points.

The ES7528 provides a total of 28-ports:
- 24 Fast Ethernet PoE injector ports that can deliver 15.4 Watts (IEEE 802.3af) or 32 Watts (high power PoE IEEE 802.3at)
- 4 Gigabit copper/SFP combo uplink Ethernet ports

See the Comtrol web site for detailed product specifications for your model.

INSTALLATION OVERVIEW

You can use the following overview to install the ES7528. If you need more information, you can refer to the *RocketLinx ES7528 User Guide*, which contains detailed installation and configuration information.

Connect the Power

The ES7528 is equipped with both AC and DC1/DC2 power inputs. The ES7528 provides redundant or aggregated power inputs (AC and/or DC1/2). DC1 and DC2 inputs support reverse polarity protection. The ES7528 will signal an alarm for loss of power on either DC1 or DC2 if you configure the Fault Relay Settings.

1. Connect the power cord to the AC power input connector.

    Note: To reach the maximum total power budget of 720W, power inputs must be aggregated. Refer to the table for detailed information.

2. Connect the DC power inputs.

    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.

Wiring the Power Supplies
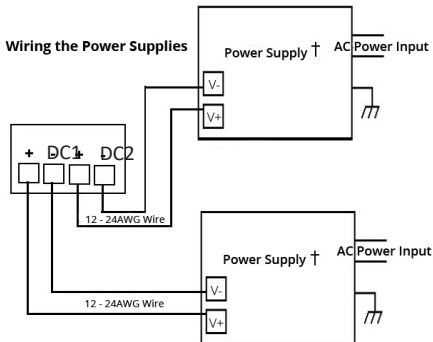
3. Insert the positive and negative wires (12 to 22 AWG) into the V+ and V- contacts.

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

Electrical Specifications		Value	
Power Input Voltage	DC1/DC2	802.3af	48VDC (46-57VDC)
		802.3at	53VDC (50-57VDC)
		AC and DC1/DC2 aggregated	53VDC 8.2A Maximum
		DC1/DC2 aggregated	DC1=DC2**†**
	PSU/AC power	100-250VAC 47-63Hz 4A Maximum	
PoE Output Voltage	802.3af	44-57VDC	
	802.3at	50-57VDC	
Maximum PoE Power/Port	802.3af	15.4W	
	802.3at	32W	
Power Budget	DC1	400W	
	DC2	400W	
	PSU/AC power	300W	
Total Power Budget	Minimum	Up to 568W	
	Maximum	Up to 720W	
Power Consumption	Maximum	28W without PD load	

†*The ES7528 provides redundant or aggregated power inputs, depending on the voltage of the power input. If there are more than two power inputs connected with different voltages, the ES7528 is powered from the highest connected voltage (redundant power). If the voltages of power inputs are the same, the total power output is aggregated.*
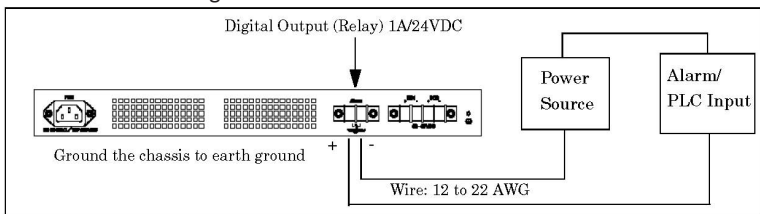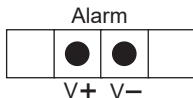
For example, to reach 700W, you can aggregate the power inputs accordingly:
- AC = 300W and DC1/2 = 400W
- DC1 = 350W and DC2 = 350W

Wiring the Alarm Relay Output

If desired, connect the digital relay input or output. The relay contacts are energized, (open) for normal operation and (close) for fault conditions. The fault conditions include: power failure, Ethernet port link events, and other pre-defined events, which you can configure in the ES7528 interface.

1. Insert the positive and negative wires into the V+ and V- contacts.
2. Tighten the wire-clamp screws to prevent the DC wires from being loosened.

Alarm

V+ V−

Digital Output (Relay) 1A/24VDC

Ground the chassis to earth ground

Power Source

Alarm/ PLC Input

Wire: 12 to 22 AWG

Mount the ES7528

Mount the ES7528 into the rack.
1. Attach the rack mount brackets to the ES7528 by using the screws provided in the rack mount kit.
2. Mount the ES7528 in a 19-inch rack by using the four rack-mounting screws provided in the kit.

Note: When installing multiple switches in high temperature environments, reserve 0.5U-1U of free space between the switches. It is important to disperse the heat generated by the ES7528.

Temperature: Verify that the rack environment temperature conforms to the specified operating temperature range.

Mechanical Loading: Do not place any equipment on top of the switch. In a high-vibration environment, additional rack mounting protection is necessary.

Grounding: On the back panel of the ES7528, there is one earth ground screw. Loosen the earth ground screw with a screwdriver; then, tighten the screw after earth ground wire is connected. Rack mounted equipment should be properly grounded.

Connecting Devices

1. Connect standard Ethernet cables between the RocketLinx ES7528 10/100BASE-TX Ethernet port (Auto MDI/MDIX) and the network nodes. Ports 1-24 are 10/100BASE-TX IEEE 802.3af (PoE) and IEEE 802.3at (PoE Plus) compliant Ethernet ports.

2. Connect the appropriate network cables between the ES7528 combo 1000BASE-TX (Gigabit, Auto MDI/MDIX)/SFP ports and the network.

Pin	10/100BASE-TX PoE (Alternative A)	1000BASE-TX
1	RX + and Vport -	BI_DA+
2	RX - and Vport -	BI_DA-
3	TX + and Vport +	BI_DB+
4	NC	BI_DC+
5	NC	BI_DC-
6	TX - and Vport +	BI_DB-
7	NC	BI_DD+
8	NC	BI_DD-

3. Optionally, connect SFP transceivers. Comtrol recommends using Comtrol Gigabit SFP transceivers.
   a. Plug the SFP transceiver into the SFP fiber transceiver.
   b. Connect the transmit channel to the receive channel at each end.
   c. Check the direction/angle of the fiber transceiver and the fiber cable.
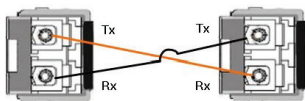
Note: This is a Class 1 Laser/LED product. Do not stare at the Laser/LED beam. The SFP port does not function until the fiber cable is linked to another active device. The SFP and corresponding RJ45 ports work in an exclusive mode. Traffic sent or received through the SFP module will have priority thus no traffic will be sent or received over the corresponding RJ45 connection. To use the RJ45 connection, remove the corresponding SFP.

ES7528 LEDs

LED Name	LED On	LED Blinking	LED Off
DC1/DC2 (Power)	Power available	Power not available	Power is off
PSU (AC power)	Power available	Power not available	Power is off
Alarm	Alarm activated		Alarm not activated
R.S. (Super-Ring Redundancy Manager)	Green: Normal Ring state Amber: Abnormal Ring state	Green Flashing: Incorrect configuration Amber Flashing: The break has been detected to be local to one of the ports	Super-Ring not active
Sys (System)	System ready	System is uploading firmware or rebooting	System not ready
LEDs 1-24 Link/Act **Duplex**	Green: 100M Yellow: 10M Green: Full-Duplex	Green (802.3af): 1000M Blue (802.3at): 1000M Yellow: 10M Not applicable	Not connected Half-Duplex
LEDs G1-G4 Link/Act **Duplex**	 Duplex: Full-Duplex	Link/Act: Green: 1000M Yellow: 10M or 100M Not applicable	Link/Act: Not connected Duplex: Half-Duplex

PROGRAMMING THE IP ADDRESS

Configure the IP address using one of the following methods:
- PortVision DX (http://downloads.comtrol.com)
- 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 ES7528 is to use a Windows host and PortVision DX (see below). For information about using other configuration methods, refer to the *RocketLinx ES7528 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 ES7528 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 ES7528 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 ES7528 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 ES7528 features.

FEATURE CONFIGURATION

The ES7528 provides both in-band and out-band configuration methods:

Out-band management means that you configure the ES7528 using the RS-232 console cable and the Command Line Interface (CLI) to access the ES7528 without attaching an admin PC to the network. You can also use out-band management, if you lose the network connection to the ES7528.

In-band management means that you connect remotely using the ES7528 IP address through the network. You can remotely connect with the ES7528 web interface or a Telnet console and the CLI.

The following procedure uses a web browser to configure ES7528 features. Refer to the *RocketLinx ES7528 User Guide* for other configuration methods.

1. Open a web browser and enter the IP address of the ES7528.
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.

You can use the help system or the *RocketLinx ES7528* User Guide for information about configuring ES7528 features.

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/html/ES7528_main.htm
Website	http://www.comtrol.com
Phone	+1 763.957.6000