

# RocketLinx® ES8508-XT

Part Number: 32010-4



## KEY FEATURES AND BENEFITS

- Eight 10/100BASE-TX ports
- TACACS+ Support
- Advanced Layer 2 features including: VLAN, Private VLAN, QinQ, GVRP, QoS, IGMP Snooping V1/V2/V3, rate control port trunking, LACP, and online multiport mirroring
- 32Gbps non-blocking, 8K MAC address table
- RSTP, MSTP and redundant ring support with sub 5ms ring recovery
- Management via Web, PortVision DX, SNMP, Telnet, and Serial Console
- Hardware watchdog timer for system reset and recovery
- Configurable multi-event alarm output
- IP31 rated rugged aluminum housing with DIN rail mounting
- Dual 10-60VDC redundant power inputs
- Wide operating temperature ( -40° to 75°C)
- IPv6 support
- NEMA TS2 certified
- EN50121-4 EMC and IEC 61373 vibration standards for railway applications



## PRODUCT DESCRIPTION

The RocketLinx ES8508-XT is an industrial-grade managed 8-port Fast Ethernet switch featuring advanced Layer 2 management, security, and system reliability for deployment in extreme and mission critical networking applications.

The ES8508-XT design incorporates the latest managed switch technologies to ensure reliable, high-bandwidth data

communications including a 32Gbps switch fabric for real-time non-blocking data transmission, redundant network topology supporting ring, RSTP and MSTP, and a high performance ARM9 processor with an embedded hardware watchdog timer. These features combined with a rugged IP-31 grade housing and extended operating temperature guarantee performance and stability for traffic, rail, and other demanding applications.

## HARDWARE

<b>Network Interface</b>	
10/100BASE-TX	
100BASE-FX Multi-Mode	
<b>Connector Type</b>	RJ45 Duplex SC
<b>Enclosure</b>	
IP31 Grade Aluminum Metal Case	
Drop-Waterproof and Dustproof	
<b>Installation Method</b>	DIN rail
<b>LED Indicators</b>	
Power 1, Power 2, System Status Ring, Digital Input, Digital Output RJ45 Link/Activity	
<b>Digital Input (DI)</b>	
One DI, 4-Pin Screw Terminal Block	
<b>Digital Output (DO)</b>	
One DO (Dry Relay Output), 4-Pin Screw Terminal Block	
<b>Serial Console Port</b>	
One RJ45 RS-232 (TXD, RXD, Signal GND), Baud Rate: 9600bps, Data Bits: 8, Parity: None, Stop Bits: 1, Flow Control: None	
<b>Dimensions</b>	2.17" x 5.87" x 5.17" 550 x 149 x 131 mm
<b>Product Weight</b>	1.95 lbs .885 kg

## ETHERNET SPECIFICATIONS

<b>Number of Ports</b>	
6 - 10/100BASE-TX	
2 - 100BASE-FX - Multi-Mode	
<b>Cable Types</b>	
Cat 3, Cat 4, Cat 5, Cat 5e (UTP or STP)	
<b>RJ45 (Standard)</b>	
10/100BASE-TX, Auto MDI/MDIX, Auto-Negotiation (Speed/Duplex Mode)	
<b>Optical Fiber Multi-Mode</b>	
Fiber Cable Type: 8-10/125um	
Wavelength: 1310nm	
Transmit Power (Min): -20dBm	
Transmit Power (Max): -14dBm	
Receive Sensitivity (Min): -31dBm	
Receive Sensitivity (Max): 0dBm	
Link Budget: 11dB	
<b>Link Distances</b>	RJ45: 100 Meters Fiber: 2KM
<b>Port Alarm Relay Standards</b>	Yes
<b>IEEE802.1AB: Link Layer Discovery Protocol (LLDP), IEEE802.1D-2004: Rapid Spanning Tree Protocol (RSTP), IEEE802.1p: Class of Service, IEEE802.1Q VLAN Tagging and GVRP, IEEE802.1s: Multiple Spanning Tree Protocol (MSTP), IEEE802.1x: Port Based Network Access Control, IEEE802.3:10BASE-T, IEEE802.3ad: Link Aggregation Control Protocol (LACP), IEEE802.3x: Flow Control and Back-Pressure, IEEE802.3u: 100BASE-TX, IEEE802.3z: Flow Control and Back-Pressure, IEEE1588: Precision Time Protocol (PTP)</b>	
<b>Internet Protocol</b>	IPv4 and IPv6

## MANAGEMENT FEATURES

<b>Configuration Management</b>	
NetVision	
Out-Band Management: Console Port with Command Line Interface (CLI) - Similar to Cisco CLI, In-Band Management: Web Interface (HTTP/HTTPS) or a Telnet/SSH Console with CLI	
<b>Embedded Watchdog</b>	
Embedded Hardware Watchdog Timer	
Automatically Resets System if Switch System Failure Occurs	
<b>System Upgrade/Backup</b>	
Provides TFTP/Web Interface for Firmware \ Upgrade and Configuration Backup/Restore	
<b>SNMP</b>	
V1, V2c, V3 with SNMP Trap Function, Up to Four Trap Stations	

<b>SNMP MIB</b>	
MIB-II, Bridge MIB, VLAN MIB, IGMP MIB, Ethernet-like MIB, Control Private MIB, and RMON	
<b>Email Warning</b>	
Automatic Warning, Up to Four Accounts by Pre-Defined Events	
<b>System Log</b>	
Supports Both Local Mode and Server Mode	
<b>DHCP</b>	
DHCP Client, DHCP Server with IP and MAC Address Binding and DHCP Agent (Option 82)	

## NETWORK PERFORMANCE

<b>Back-Pressure</b>	
IEEE 802.3x 10/100Mbps half-duplex only	
<b>Class of Service (CoS)</b>	
IEEE 802.1p 4 priority queues/port	
<b>Flow Control Pause Frame</b>	
IEEE 802.3x 10/100Mbps full-duplex	
<b>IGMP Snooping</b>	
V1/V2 /V3 for multicast filtering and IGMP query V1/V2; supports unknown multicasting, processes forwarding policies: drop, flooding and forward to router port, 256 IGMP multicast groups	
<b>IP Security</b>	
Assign authorized IP addresses to specific port, 10 max/port	
<b>Time Synchronization</b>	
Supports IEEE 1588 (precision time protocol), NTP protocol with daylight saving function, and localized time sync function	
<b>Port-Based Network Access Control</b>	
IEEE 802.1X with RADIUS control, supports user authenticable by the RADIUS account, password and key for RADIUS server authentication, TACACS+	
<b>Port Configuration</b>	
Port link speed, link mode, port status, enable/disable	
<b>Port Mirroring</b>	
Online traffic monitoring on multiple selected ports	
<b>Port Security</b>	
Assign authorized MAC addresses to specific port, 10 max/port	
<b>Port Trunk</b>	
IEEE 802.3ad LACP with timer and static port trunk; trunk member up to 4 ports and maximum 4 trunk groups	
<b>Private VLAN</b>	
Direct client ports in isolated/community VLAN to promiscuous port in primary VLAN	
<b>Rate Control</b>	
Ingress filtering for broadcast, multicast, unknown DA or all packets. Egress filtering for all packet types	
<b>Switch Technology</b>	
32Gbps switch fabric, store/forward switch technology, 8K MAC address	
<b>System Throughput</b>	
26 Mega Packets/Second, 64 byte Packet Size, 14,880pps - 10Mbps; 148,800pps - 100Mbps; 1,488	
<b>Transfer Packet Size</b>	
64 bytes to 1522 bytes (includes 1522 bytes VLAN tag) Packet Buffer 1Mbits shared memory	
<b>Traffic Prioritization (QoS)</b>	
Supports 4 physical queues, weighted round robin queuing (WRR 8:4:2:1) and strict priority scheme, which follows 802.1p COS tag and IPv4 ToS/ diffserv information to prioritize industrial network traffic	
<b>VLAN</b>	
IEEE 802.1Q tag VLAN with 256 (max) VLAN entries and 2K GVRP entries; 3 VLAN link modes: trunk, hybrid, and link access	
<b>Modbus TCP/IP</b>	
Supports Modbus TCP/IP Communications with Function Code 4 for Factory Automation through the CLI, Operates as Slave/Server Device, While a Typical Master/Client Device is a Host Computer Running Appropriate Through Ethernet, Thus the Modbus TCP/IP Master Can Read or Write to the Modbus Registers Provided by the Modbus TCP/IP. Application Software (SCADA / HMI System)	

<b>Multiple Spanning Tree</b>	
IEEE 802.1s MSTP, each MSTP instance can include one or more VLANs and supports multiple RSTP deployed in a VLAN or multiple VLANs	
<b>Redundant Ring Technology</b>	
Failure recovery within 5ms	
Rapid dual homing: multiple uplink paths to upper switches	
Ring trunking: integrates port aggregate function in ring path to get higher throughput ring architecture	
Multiple Ring: couple or multiples of up to 16 rapid super rings, supports up to 4 fast ethernet rings/switch	

## ELECTRICAL SPECIFICATIONS

<b>Device</b>	
DC Input Voltage)	10 to 60VDC
Current Consumption	24VDC @ 625mA
Power Consumption (Max.)	15W
<b>Number of Power Connectors</b>	
1	
<b>Power Connector Type</b>	
4-Pin screw terminal block	
<b>Power Input Redundancy</b>	
Dual redundant inputs	
<b>Reverse Polarity Protection</b>	
Yes	
<b>Digital Input</b>	
1 with photo optical isolation	
Logic Low (0)	0 to 10VDC
Logic High (1)	11 to 30VDC
<b>Digital Output (Relay Output)</b>	
1	
DC Input Voltage	24VDC
Current Consumption (24VDC)	1A maximum
Multi-Event Relay Feature	Power, Port Link, DI/Ring Status Change, Ping Reset, or Perform Routing Relay On/Off Function

## ENVIRONMENTAL SPECIFICATIONS

<b>Air Temperature</b>	
System On	-40° to 75° C
System Off	-40° to 75° C
<b>Operating Humidity</b>	
(Non-Condensing) 5% to 95%	
<b>Mean Time Between Failures</b>	
75.4 Years	

## EXPORT INFORMATION

<b>Packaged Shipping Weight</b>	2.73lbs 1.24kg
<b>Package Dimensions</b>	9 13/16" x 8 5/16" x 4 1/8" 24.9cm x 21.1cm x 10.5cm
<b>UPC Code</b>	7-56727-32032-6
<b>ECCN</b>	5A992
<b>Schedule B Number</b>	8517.62.0050

## REGULATORY STANDARDS

<b>Emissions</b>	
Canadian EMC Requirements	
ICES-003	
European Standard EN55022	
CISPR 22	
FCC Part 15 Subpart B	
Class A limit	
Heavy Industrial	
IEC 1000-6-4/EN61000-4-9: Pulse Magnetic Field	
<b>Immunity</b>	
Heavy Industrial IEC/EN 61000-6-2:	
IEC 1000-4-2/EN61000-4-2: ESD	
IEC 1000-4-3/EN61000-4-3: RF	
IEC 1000-4-4/EN61000-4-4: Fast Transient/Burst	
IEC 1000-4-5/EN61000-4-5: Surge	
IEC 1000-4-6/EN61000-4-6: Conducted Disturbance	
IEC 1000-4-8/EN61000-4-8: Magnetic Field	
Railway EMC EN 50121-4: Signaling and Telecommunications Apparatus	
EN 50121-1: Rolling Stock. Train and Complete Vehicle	
Hi-Pot AC 1.5KV for All Ports and Power	
<b>Other</b>	
NEMA TS2 Certified	
Railway Vibration/Shock:	
IEC 61373	
Free Fall with Package:	
IEC 60068-2-32	
Regulatory	



**Warranty Information**  
Comtrol offers a 30-day satisfaction guarantee and 5-year limited warranty.

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