

# ROCKETLINX ES8510

Industrial Ethernet Switch

## HIGHLIGHTS

- Multiple redundant ring (recovery time <5ms)
- 7 10/100-TX ports and 3 Gigabit RJ-45/SFP combo ports (10/100/1000 Base-TX, 100Base-FX, 1000Base-X)
- 32Gbps non-blocking, 8K MAC address table
- VLAN, GVRP, QoS, IGMP snooping V1/V2/V3, rate control, port trunking, LACP, online multi-port mirroring
- Management viz console CLI, Web, SNMP V1/V2c/V3, RMON, HTTPS, SSH and NetVision
- Advanced security feature supports IP security, port security, DHCP server, IP and MAC binding, 802.1x network access control
- Event notification by e-mail, SNMP trap, syslog, digital input and relay output
- -20° to +70° C operating temperature for extreme environments
- Rigid aluminum IP31 housing, excellent heat dispersion, redundant power, DIN-rail/wall-mount installation



Part Number  
32060-9

## Product Description

The RocketLinx ES8510 is a managed Industrial Ethernet Switch, equipped with seven 10/100TX ports and three 10/100/1000 RJ-45/100-FX/Gigabit SX/LX combo ports. Two gigabit ports may be used to form a non-stop Redundant Ring while the third gigabit port enables connection to an upper switch, couple ring or public server. The Gigabit combo port design provides flexibility to choose copper or fiber media supporting 100Base-FX or 1000Base-X, Multi-mode or Single-mode for a wide variety of distance and installation requirements.

The RocketLinx ES8510 is housed in a rugged aluminum enclosure that features an excellent heat dispersing mechanical design and a wide operating temperature support. The embedded software supports full Layer 2 management features, multi-form ring redundancy, network control, monitoring, security and notification. The RocketLinx ES8510 also provides a built-in watchdog timer and digital input and relay output to avoid undetected problems. The RocketLinx ES8510 provides the perfect foundation for building your industrial Ethernet infrastructure.

### Three Gigabit Ports for Flexible Network Planning

A unique feature to the RocketLinx ES8510 is the three Gigabit RJ-45/SFP combo ports, which can improve performance dramatically compared to products with only two Gigabit RJ-45/SFP combos. Each combo comes with a flexible connection -- 100Mbps or 1000Mbps, as well as fiber or copper connection options. All together, as many as 10 different combinations of port connections are possible. By selecting the appropriate fiber transceivers, the RocketLinxES8510 can meet your industrial application requirements with virtually any transmission distance.

### 100/1000Mbps SFP

The RocketLinx ES8510 SFP socket supports 100Base-FX single/multi-mode and 1000Base-SX/LX/LHX/XD multi/single mode transceivers. The available distance of the 100Base-FX is up to 30KM. 1000Base-SX multi-mode supports 550M, 1000Base-LX single-mode supports 10KM, 1000Base-LHX single-mode supports 30KM, 1000Base-XD single-mode supports up to 50KM. 1000Base-ZX single-mode supports up to 70KM.

## SPECIFICATIONS

### HARDWARE

• Bus Interface Specification	10/100/1000BASE-TX; 100BASE-FX; 1000BASE-SX/LX/LHX/XD/ZX Gigabit Fiber
• Enclosure	IP-31 Grade Aluminum; Drop-Waterproof and Dustproof
• Installation Method	DIN-Rail
• LED Indicators	Power 1, Power 2, Ring Master (R.M.); 10/100Base-TX Link/Activity
• Dimensions	10/100Base-TX Full Duplex/Collision; Gigabit Copper/SFP Link/Activity; Digital Input 1 & 2, Digital Output 1 & 2
• Product Weight	5.0" x 6.3" x 3.7"
	2.63 lb

### TECHNOLOGY

• Standards	10Base-T
IEEE 802.3	100Base-TX and 100Base-FX
IEEE 802.3u	1000Base-TX
IEEE 802.3ab	Gigabit Ethernet fiber
IEEE 802.3z	Rapid Spanning Tree Protocol (RSTP)
IEEE802.1D-2004	VLAN Tagging and GVRP
IEEE802.1Q	Class of Service
IEEE802.1p	For Port Trunk with Link Aggregation Control Protocol (LACP)
IEEE802.3ad	Port Based Network Access Control
IEEE802.1X	
• Flow Control	Flow Control and Back-Pressure
IEEE802.3x	

### PERFORMANCE

• Switch Technology	32Gbps Switch Fabric Store and Forward Switch Technology
• System Throughput	14,880pps for 10Mbps; 148,800pps for 100Mbps; 1,488,100 for Gigabit Ethernet
• Number of MAC Address	8K
• Packet Buffer Memory	1Mbits
• Transfer Packet Size	64 bytes to 1522 bytes (with VLAN Tag)
• Priority Queues per Port	4
• Port Trunk (Max)	5 Static Trunk
• VLAN (Max)	64
• DHCP Server	Up to 255 IP Addresses

### MANAGEMENT FEATURES

• Configuration	Cisco-compatible CLI, NetVision Utility, HTTP, HTTPS, SSH, TFTP/Web update for firmware and configuration backup/restore, DHCP Client, h/warm reboot, reset to default, admin password, port speed/duplex control, status, statistic, MAC address table display, static MAC, aging time, SNMP v1, v2c, v3, traps and RMON1
• SNMP MIB	MIB-II, Bridge MIB, VLAN MIB, SNMP MIB, RMON and Private MIB
• Port Trunk	Up to 5 static trunk and IEEE802.3ad LACP
• VLAN	IEEE802.1Q VLAN, GVRP. Up to 64 VLAN groups
• Quality of Service (QoS)	Four priority queues per port, IEEE802.1p COS and Layer 3 TOS/DiffServ
• IGMP Snooping	IGMP Snooping V1/V2/V3 for multicast filtering and IGMP Query V1/V2
• Rate Control	Ingress filtering for broadcast, multicast, unknown DA or all packets, and egress filtering for all packets
• NTP	Network Time Protocol to synchronize time from Internet or local PC
• Embedded Watchdog	Embedded hardware watchdog timer to auto reset system when switch system failure

• Port Mirroring	Online traffic monitoring on multiple selected ports
• Port Security	Assign authorized MAC to specific port
• IP Security	IP security to prevent unauthorized access
• 802.1x	Port-based network access control
• DHCP Server	Up to 255 IP address, support IP and MAC binding
• E-mail Warning	Automatic warning by pre-defined events
• System Log	Supports both local mode and server mode

### NETWORK REDUNDANCY

• Rapid Spanning Tree Protocol	IEEE802.1D-2004 rapid spanning tree protocol (RSTP) Compatible with Legacy STP and IEEE802.1w
• Redundant Ring Technology	Failure recovery within 5ms.
• Rapid Dual Homing (RDHTM)	Multiple uplink paths to upper switches
• MultiRing	Multiple rapid rings

### ELECTRICAL SPECIFICATIONS

• Device	DC Input Voltage	12-48 VDC
	Current Consumption	0.8A
	+24VDC	20W
• Power Connector	Power Consumption (Max)	1
• Power Connector Type	4-Pin Screw Terminal Block	Dual Redundant Independent Power
• Power Input Redundancy		
Inputs		
• Reverse Polarity Protection	Yes	
• Power Alarm Relay	Alarm for power failure notification	1A Max @ 24VDC
• Relay Rating		

### ENVIRONMENTAL

• Air Temperature	
System On	-20° to 70° C
System Off	-40° to 85° C
• Operating Humidity	
Non-condensing	5% to 95%
• MTBF (Mean Time Between Failures)	28.53 years

### ETHERNET SPECIFICATIONS

• Connector Type	RJ-45
• Number of Port	10
• Ethernet Cable Type	CAT-3, CAT-4, CAT-5, CAT-5e (UTP or STP)
• Standard for RJ45 Ports	(7) 10/100BASE-TX Auto MDI/MDI-X, Auto Negotiation
• Standard for Optional SFP	(3) 10/100/1000Base-TX, Combo with SFP
• Port Alarm Relay	1000Base-SX/LX/LHX/XD/ZX Gigabit Fiber
• Relay Rating	100Base-FX
	Alarm Relay for Port Failure Notification
	1A Max. @ 24VDC

### SERIAL CONSOLE PORT SPECIFICATION

• Connector Type	RJ-45
• Number of Port	1
• Serial Interface	RS-232 (TXD, RXD, Signal GND)
• Baud Rate	9600Bps
• Device Data Control	8
Data Bits	None
Parity	1
Stop Bits	None
Flow Control	

### DIGITAL INPUT SPECIFICATION

• Connector Type	4-PIN Screw Terminal Block
• Number of Inputs	2 Sets

• Voltage Levels	
Logic Low (0)	0 to 10VDC
Logic High (1)	11 to 30VDC

### DIGITAL OUTPUT SPECIFICATION

• Connector Type	4-PIN Screw Terminal Block
• Number of Outputs	2 Sets of Relay Outputs
• Output Relay Rating	1A Max. @ 24VDC

### EXPORT INFORMATION

• Packaged Shipping Weight	3.9 lbs
• Package Dimensions	11.3" x 5.5" x 9.1"
• UPC Code	7-56727-32060-9
• ECCN	5A991
• Schedule B Number	8517.62.0050

### REGULATORY APPROVALS

• Emissions	European Standard EN55022
	CISPR 22
	FCC Part 15 Subpart B
	Class B limit
• Immunity	European Standard EN55024
	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
	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
	IEC 1000-4-11/EN61000-4-11: Dips and Voltage Variations
• Safety	IEC 60950/EN60950 (LISTED)
	CSA C22.2 No. 60950/UL60950 Third Edition
• Other	European Standard: 2002/95/EC Directive (RoHS)
• Regulatory Approvals	RoHS 2002/95/EC
	CE
	FCC
	UL/cUL

### ORDERING INFORMATION

32060-9 RocketLinx ES8510

### RECOMMENDED ACCESSORIES

32101-9 Power Supply PS1060 Universal (24V, 60W, Din Rail)
32102-6 Power Supply PS1100 Universal (24V, 100W, Din Rail)

### PRODUCT SUPPORT & SERVICE INFORMATION

#### Warranty Information

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

#### Sales Support

+1.763.494.4100  
sales@comtrol.com

#### Technical Support

+1.763.494.4100  
www.comtrol.com/support

#### Email, FTP, and Web Support

info@comtrol.com  
ftp.comtrol.com  
www.comtrol.com