ROCKET*LINX* 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

- -20º to +70º 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.

COMTROL®
Network Enabling Devices

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 10/100Base–TX Full Duplex/Collision; Gigabit Copper/SFP Link/Activity; Digital Input 1 & 2, Digital Output 1 & 2

• Dimensions	5.0" x 6.3" x 3.7"
• Product Weight	2.63 lb

TECHNOLOGY

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

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, 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 super rings

ELECTRICAL SPECIFICATIONS

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

ENVIRONMENTAL

• Air Temperature	
System On	-20^0 to 70^0 C
System Off	-40^0 to 85^0 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
	(3) 10/100/1000Base–TX, Combo with SFP
• Standard for Optional SFP	1000Base–SX/LX/LHX/ XD/ZX Gigabit Fiber
	100Base–FX
• Port Alarm Relay	Alarm Relay for Port Failure Notification
• Relay Rating	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	
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

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