The RocketLinx ES8510-XT is a managed industrial Ethernet switch, equipped with seven 10/100BASE-TX ports and three Gigabit RJ45/100FX/Gigabit SX/LX/LHX/ZX/SFP 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-XT is housed in a rugged aluminum enclosure that features an excellent heat dispersing mechanical design and extended 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-XT also provides a built-in watchdog timer and digital input and relay output to avoid undetected problems. The RocketLinx ES8510-XT provides the perfect foundation for building your industrial Ethernet infrastructure.

**KEY FEATURES AND BENEFITS:**

- Multiple redundant ring (recovery time <5ms)
- Seven 10/100BASE-TX ports and three Gigabit RJ45/100FX/Gigabit SX/LX/LHX/ZX/SFP combo ports (10/100/1000BASE-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 via 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 email, SNMP trap, syslog, digital input and relay output
- -40° to +74°C operating temperature for extreme environments
- Rigid aluminum IP31 housing, excellent heat dispersion, redundant power, DIN rail/wall mount installation
- NEMA TS2 Compliant
- RoHS2 compliant under CE
- IPv6 support

**PRODUCT DESCRIPTION:**

The RocketLinx ES8510-XT is a managed industrial Ethernet switch, equipped with seven 10/100 BASE-TX ports and three 10/100/1000 BASE-TX, 100BASE-FX, 1000BASE-X 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.

Three Gigabit Ports for Flexible Network Planning

A unique feature to the RocketLinx ES8510-XT is the three Gigabit RJ45/SFP combo ports, which can improve performance dramatically compared to products with only two Gigabit RJ45/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 ten different combinations of port connections are possible. By selecting the appropriate fiber transceivers, the RocketLinx ES8510-XT can meet your industrial application requirements with virtually any transmission distance.

**100/1000 Mbps SFP**

ROCKETLINX SPECIFICATIONS:

**HARDWARE**

Network Interfaces 10/100/1000BASE-TX or 1000BASE-FX and 1000BASE-SX/LX/LXHD/DDX2 Gigabit Fiber

Enclosure IP51 grade aluminum metal case

Installation Method DIN rail, wall mount

LED Indicators Power 1, Power 2, Ring Master (R.M.), 10/100BASE-TX link/activity, 10/100/1000BASE-TX Full-duplex Link Gigabit copper/SFP combo link activity, Digital Input 1 & 2, Digital Output 1 & 2

Digital Input (DI)  2 Digital Inputs, 4-Pin screw terminal block

Digital Output  2 Digital Outputs (Dry Relay Output), 4-Pin screw terminal block

Serial Console Port One RJ45 RS232 (TXD, RXD, Signal GND), Baud Rate: 9600bps

Data Bits 8

Parity None

Stop Bits 1

Flow Control None

Dimensions 5.9” x 6.3” x 3.7” 12.7 x 16 x 9.4 cm

Product Weight 2.63 lbs 1.19 kg

**ETHERNET SPECIFICATIONS**

Number of Ports 7 standard Fast Ethernet and 3 combo RJ45/SFP Gigabit Ethernet RJ45 10/100BASE-TX, auto MDI/MDIX, auto negotiation (speed/duplex mode) 10/100/1000BASE-TX, auto MDI/MDIX, auto negotiation (speed/duplex mode)

SFP (Optional) 100BASE-SX-Fiber, 100BASE-SX/LX, auto negotiation (speed/duplex mode)

Cable Types Cat 3, Cat 4, Cat 5, Cat 5e (UTP or STP)

Link Distances RJ45: 100 meters SFP: depends on model: Single-Mode: 30KM, Multi-Mode: 2KM

Port Alarm Relay Standards

IEEE 802.1AB: Link Layer Discovery Protocol (LLDP)

IEEE 802.1D-2004: Spanning Tree Protocol (STP)

IEEE 802.1Q: Class of Service (CoS)

IEEE 802.1p: Class of Service

IEEE802.1ab: Link Layer Discovery Protocol (LLDP)

IEEE 802.1A-B: VLAN Tagging and QVPR

IEEE 802.1Q: Multiple Spanning Tree Protocol (MSTP)

IEEE 802.1Q: Port Based Network Access Control

IEEE 802.3: 10BASE-T

IEEE 802.3ad: Link Aggregation Control Protocol (LACP)

IEEE 802.3u: 100BASE-TX, 100BASE-FX

IEEE 802.3z: Fast Ethernet, Gigabit Ethernet

IEEE 802.1x: Port Based Network Access Control

IEEE 802.1Q: VLAN tag

IEEE 802.1Q: VLAN tag 

IEEE 802.1Q: VLAN tag

IEEE 802.3: 10/100Mbps Full-Duplex

IEEE 802.3u: 10/100/1000Mbps Full-Duplex

IEEE 802.3z: 10/100/1000Mbps Full-Duplex

IEEE 802.1p: 4 priority level (0-7), queue ID (0-3)

Flow Control Pause Frame IEEE 802.3c: 10/100Mbps Full-Duplex

IEEE 802.3z: 100Mbps Full-Duplex

IGMP Snooping V1/V2/V3 for multicast filtering and IGMP query V1/V2: supports unknown multicast, processes forwarding policies: drop, flooding and forward to router port, 256 IGMP multicast groups

IP Security Assign authorized IP addresses to specific port, 10 max/port

Time Synchronization UTC/Coordinated Universal Time (UTC), supports PTP protocol with daylight saving time, and localized time sync function

Port-Based Network Access Control Supports user authentication by the RADIUS server, account, password and key for the RADIUS server, in primary and secondary

Port Configuration Port link speed, link mode, port status, enable/disable

Port Mirroring Online traffic monitoring on multiple selected ports

Port Security Assign an isolated MAC address to a specific port, 10 max/port

Port Trunk IEEE 802.3ad LACP with static and manual trunk ports: trunk member up to 8 ports and maximum 5 trunk groups

Private VLAN Direct client ports in isolated/community VLAN to promiscuous port in primary VLAN

Rate Control Ingress filtering for broadcast, multicast, unknown DA or all packets. Egress filtering for all packet types

Switch Technology 20Gbps switch fabric store and forward switch technology, 8K MAC address

System Throughput 10Mbps 14.880bps

100Mbps 148.800bps

Gigabit Ethernet 1,488,100pps

Packet Buffer 1MB shared memory

Traffic Prioritization (CoS) Supports 4 priority queues, weighted Round Robin queuing (WRR 8:4:2:1) and strict priority scheme (IEEE 802.1p COS tag) and IP ToS/ToS information for traffic to prioritize industrial network traffic

VLAN IEEE 802.1Q: VLAN VLAN with 256 (Max) VLAN VLAN entries, 2K+1 DSVR entries; 3 VLAN link modes: trunk (hybrid, tagged) and access

Modbus TCP/IP CL1 support for Modbus TCP/IP communications with Code 4 (factory automation). Operates as slave/server device, a Telnet/SSH console with CLI support for Modbus TCP/IP communications with Function Code 4 (factory automation)

Modbus TCP/IP

Network Redundancy Redundant Ring Technology Failure Recovery within 5ms

Ring Trunking Multiple uplink paths to upper switches

Rapid Dual Homing Multiple uplink paths to upper switches

Redundant Ring Technology Failure Recovery within 5ms

Rapid Dual Homing Multiple uplink paths to upper switches

Rapid Dual Homing

Rapid Dual Homing

Ring Trunking

Ring Trunking

Multiple Ring

Multiple Ring

Power 1, Power 2, Ring Master (R.M.), 10/100BASE-TX link/activity, 10/100/1000BASE-TX Full-duplex Link Gigabit copper/SFP combo link activity, Digital Input 1 & 2, Digital Output 1 & 2

Enclosure DIN rail, wall mount

Connector Types RJ45, SFP

**SOFTWARE**

Configuration Management Out of band management: Console port with Command Line Interface (CLI) – similar to Cisco CLI, In-band management: Net/View (Windows application), web interface (HTTP/HTTPS) or a Telnet/SSH console with CLI

Embedded Watchdog Embedded hardware watchdog timer automatically resets system if switch system failure occurs

System Upgrade/Backup TTFTP/web interface for firmware upgrade and configuration backup/restore

SNMP V1/V2c, V3 with SNMP trap function, up to four trap stations

SNMP MIB MIB II, Bridge MIB, VLAN MIB, IGMP MIB, Ethernet-like MIB, Control private MIB, and RMON

Email Warning Automatic warning, up to four accounts by pre-defined events

System Log Supports both local mode and server mode

DHCP DHCP client, DHCP server and IP and MAC address binding and DHCP

**COMMENTS**

Regulatory Approvals

IEC 1000-4-11/EN61000-4-11: Dips and Voltage Variations

IEC 1000-4-6/EN61000-4-6: Conducted Disturbance

IEC 1000-4-8/EN61000-4-8: Magnetic Field

IEC 802.1D-2004: Spanning Tree Protocol (STP): Compatible with Legacy STP and IEEE 802.1Q

Multiple Spanning Tree Protocol IEEE 802.1s MSTP: each MSTP instance can include one or more VLANs and supports multiple RSTPs deployed in a VLAN or multiple VLANs

Redundant Ring Technology Failure Recovery within 5ms

Rapid Dual Homing

Rapid Dual Homing

Ring Trunking

Ring Trunking

Multiple Ring

Multiple Ring

Power 1, Power 2, Ring Master (R.M.), 10/100BASE-TX link/activity, 10/100/1000BASE-TX Full-duplex Link Gigabit copper/SFP combo link activity, Digital Input 1 & 2, Digital Output 1 & 2

Enclosure DIN rail, wall mount

Connector Types RJ45, SFP

**PRODUCT INFORMATION**

Environmental Specifications

Air Temperature

System On -40°C to 74°C

System Off -40°C to 69°C

Operating Humidity

Non-condensing 5% to 95%

MTBF (Mean Time Between Failures)

28.53 years

**EXTRA INFORMATION**

Website www.comtrol.com

Email, FTP, and Web Support info@comtrol.com

Sales Support +1.763.957.6000 sales@comtrol.com

Technical Support +1.763.957.6000 www.comtrol.com/support

Email, FTP, and Web Support info@comtrol.com

RECOMMENDED PRODUCTS:

32101-9 PS1060, 60 Watts Industrial DIN rail power supply (24V, 60W, DIN rail) 32102-6 PS1100, 100 Watts Industrial DIN rail power supply (24V, 100W, DIN rail) 1200038 24VDC External Power Adapter, Bare Wires (24VDC, 24W)