The RocketLinx ES8510-XTE is a managed Industrial Ethernet Switch, equipped with seven 10/100BASE-TX ports and three RJ45/SFP combo (10/100BASE-TX, 100BASE-FX) ports. The three combo ports offer flexibility for additional fiber connections by plugging in different types of SFP modules, which can support distances of 2KM in Multi-Mode or 120KM in Single-Mode. The combo ports make port combination even easier, such as eight RJ ports and two fiber ports, or nine RJ ports and one fiber port.

The RocketLinx ES8510-XTE is housed in a rugged aluminum enclosure that features an excellent heat dispersing mechanical design and 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-XTE also provides a built-in watchdog timer, digital input and relay output to avoid undetected problems. With industry leading managment features and rugged industrial design, the RocketLinx ES8510-XTE provides the perfect foundation for building your industrial Ethernet infrastructure.

**KEY FEATURES AND BENEFITS:**
- Seven 10/100BASE-TX ports and three RJ45/SFP combo (10/100BASE-TX, 100BASE-FX)
- Enhanced redundancy featuring multiple redundant ring technology (recovery time <5ms)
- Non-blocking switching, 8K MAC address table, 32 Gbps switch fabric
- 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, IEEE 802.1x network access control
- Event notification by e-mail, SNMP trap, syslog, digital input and relay output
- Rigid aluminum IP31 housing, excellent heat dispersion, redundant power, DIN rail/wall mount installation
- -40° to +74°C operating temperature for extreme environments
- NEMA TS2 Compliant
- RoHS2 compliant under CE
- IPv6 support

**PRODUCT DESCRIPTION:**

The RocketLinx ES8510-XTE is a managed Industrial Ethernet Switch, equipped with seven 10/100BASE-TX ports and three RJ45/SFP combo (10/100BASE-TX, 100BASE-FX) ports. The three combo ports offer flexibility for additional fiber connections by plugging in different types of SFP modules, which can support distances of 2KM in Multi-Mode or 120KM in Single-Mode. The combo ports make port combination even easier, such as eight RJ ports and two fiber ports, or nine RJ ports and one fiber port.

Three RJ45/SFP Fast Ethernet Combo Ports for Flexible Network Planning

The RocketLinx ES8510-XTE is designed with three combo Fast Ethernet ports. Each combo port combines one Small Form-Factor Pluggable (SFP) socket for 100Mbps Multi-Mode or Single-Mode SFP transceiver, as well as one RJ45 copper port in 10Mbps full-duplex, 100Mbps half/full-duplex link mode. The switch will automatically detect the priority of cable connections for each combo port. Users are able to connect two 100Mbps SFP ports of the ES8510-XTE for Fast Ethernet fiber redundant ring topologies and the third combo port as a fiber uplink port.

100Mbps SFP

The RocketLinx ES8510-XTE SFP socket supports 100BASE-FX Single/Multi-Mode transceivers. The available distance of the 100BASE-FX ranges from 2KM Multi-Mode to 120KM with Single-Mode modules.
**ROCKETLINX SPECIFICATIONS**:

**HARDWARE**

**Network Interfaces**
10/100BASE-TX, 10BASE-FX

**Connector Types**
RJ45, SFP

**Enclosure**
IP31 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, 10/100BASE-FX Full-Duplex/collision, copper/SFP combo link/activity, Digital Input 1&2, Digital Output 1&2

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

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

**Serial Console Port**
One RJ45 RS-232 (TXD, RXD, Signal GND), Baud Rate: 9600bps

**Data Bits**
8

**Parity**
None

**Stop Bits**
1

**Flow Control**
None

**Dimensions**
5.0” x 6.3” x 3.7”

**Product Weight**
1.19 kg

**ELECTRICAL SPECIFICATIONS**

**Number of Ports**
10

**やっぱ fast Ethernet and 3 combo RJ45/SFP fast Ethernet RJ45**

**SFP (Optional)**
100BASE-FX fiber, auto MDI/MDIX, 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: 5KM

**Port Alarm Relay**
Yes

**Standards**

IEEE 802.1AB: Link Layer Discovery Protocol (LLDP)
IEEE 802.1D-2004: Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1P: Class of Service
IEEE 802.1Q: VLAN Tagging and GVRP
IEEE 802.1X: Port Based Network Access Control
IEEE 802.3: 10BASE-T
IEEE 802.3ad: Link Aggregation Control Protocol (LACP)
IEEE 802.3ab: 100BASE-TX
IEEE 802.3cd: Link Aggregation Control Protocol (LACP)
IEEE 802.3er: Trunk Control and Back-Pressure
IEEE 802.3z: Gigabit Ethernet Fiber

**Internet Protocol**
IPv4 and IPv6

**MEANINGFUL SPECIFICATIONS**

**Configuration Management**
Out-of-Band Management: console port with Command Line Interface (CLI) - similar to Cisco CLI, in-band management:
NetVision (Windows application), web interface (HTTP/HTTPS), Telnet/TFTP/SSH protocol with CLI

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

**System Upgrade/Backup**
1 FTP/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-H: 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 with IP and MAC address binding and DHCP agent

**NETWORK PERFORMANCE**

**Back Pressure**
IEEE 802.3x: 4/10/100Mbps Half-Duplex Only

**Class of Service (CoS)**
IEEE 802.1q: 4 priority level (0-7), queue ID (0-3)

**Flow Control Pause Frame**

IEEE 802.3x: 10/100Mbps Full-Duplex

**IGMP Snooping**
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

**IP Security Prioritization (QoS)**
Assign authorized IP addresses to specific port, 10 max/port

**Time Synchronization**
Supports NTP protocol with daylight saving function, and localized time sync function

**Port-Based Network Access Control**
IEEE 802.1X: Supports user authentication by the RADIUS account, password and key for the RADIUS server (primary and secondary)

**Port Configuration**
Port link speed, link mode, port staus, enable/disable

**Port Mirroring**
Online traffic monitoring on multiple selected ports

**Port Security**
Assign authorized MAC addresses to specific port, 10 max/port

**Port Trunk**
IEEE 802.3ad LAPC with timer and static port trunk; 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.

**Switch Technology**
25Mbps switch fabric, store and forward switch technology, 8K MAC address

**Diem Throughput**
1.5Mbps

64 byte packet size

Transfer Packet Size
64 bytes to 1522 bytes (Includes 1522 bytes VLAN tag)

**Packet Buffer**
64 bytes to 1522 bytes VLAN tag

**Traffic Prioritization (QoS)**
4 physical queues, weighted Round Robin queuing

(RR 8:4:2:1) and strict priority scheme (IEEE 802.1p COS tag and IPv4 ToS different info) to prioritize industrial network traffic

**VLAN**
IEEE 802.1Q: VLAN with 256 (Max) VLAN entries, 2 VLAN link modes (trunk, hybrid, and link access)

**Modbus TCP/IP**
CLI support for Modbus TCP/IP communications with Function Code 4 (factory automation).
Operates as slave/server device, while a typical master/client device is a host computer running appropriate through Ethernet. The Modbus TCP/IP master can read or write to the Modbus registers provided by the Modbus TCP/IP application software (SCADA / HMI System)

**NETWORK REDUNDANCY**

**Rapid Spanning Tree Protocol**
IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP): compatible with legacy STP and IEEE 802.1w

**Multiple Spanning Tree Protocol**
IEEE 802.1s MSTP: each MST 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**
Multiplex 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 rings, supports up to 5 fast Ethernet rings/switch

**ELECTRICAL SPECIFICATIONS**

**Device**
DC Input Voltage (positive or negative): 10-60 VDC
Current Consumption (24VDC) 650mA
Power Consumption (Max) 15.6W

**Number of Power Connectors**
1

**Power Connector Type**
4-pin screw terminal block

**Power Input Redundancy**
Dual redundant inputs

**Reverse Polarity Protection**
Yes

**Digital Input**
2 with photo optical isolation

**Logic Low (0)**
0 to 10VDC

**Logic High (1)**
11 to 30VDC

**Digital Output (Relay Output)**
DC Input Voltage 24VDC

**Current Consumption (24VDC)**
1A Maximum

**ENVIRONMENTAL SPECIFICATIONS**

**Air Temperature**
System On
-40°C to 74°C
System Off
-40°C to 80°C

**Operating Humidity**
Non-condensing
5% to 95%

**MTBF (Mean Time Between Failures)**
34.6 years

**-export information**

**Packaging Weight**
3.9 lbs

**Package Dimensions**
11.3” x 5.5” x 9.1”

**UPC Code**
28.7 x 13.97 x 23.11 cm

**Regulatory Approvals**

**Canadian EMC Requirements**
ICES-003

**European Standard EN50022**
EN10100-3-2

**Canadian EMC Requirements**
CSPR 2.2

**FCC Part 15 Subpart B**
Class A

**Immunity**

**European Standard EN50024**
IC IC 1000-4-2/EN61000-4-2: ESD
IC IC 1000-4-4/EN61000-4-4: Fast Transient/Burst
IC IC 1000-4-5/EN61000-4-5: Surge
IC IC 1000-4-6/EN61000-4-6: Conducted Disturbance
IC IC 1000-4-8/EN61000-4-8: Magnetic Field
IC IC 1000-4-11/EN61000-4-11: DIPS and Voltage Variations

**Safety**
IEC 60950EN60950 (LISTED)

**ECOS 22.2 No. 6909U/UL60950 Third Edition**

**Shock**
IEC 60608-2-27

**Vibration**
IEC 60608-2-32

**Free Fall**
IEC 60068-2-32

**Hi-Pot**
AC 1.2KV for all ports and power

**Regulatory Approvals**

**European Standard: 2002/95/EC Directive (RoHS2)**

**NEMA T32 Certified**

**Other Regulatory Approvals**

**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, 3-Wire)

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

**Sales Support**
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