COMTROL
Pepperl+Fuchs

ETHERNET SWITCH

RocketLinx® ES8510-XTE

Part Number: 32062-3

NEMA TS2

EXTENDED TEMPERATURE RATINGS

PORTVISION DX MANAGEMENT SOFTWARE

KEY FEATURES AND BENEFITS

- Seven 10/100BASE-TX ports and three RJ45/SFP combo (10/100BASE-TX, 100BASE-FX)
- Supports TACACS+
- Enhanced redudancy 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.

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.

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 SPECIFICATION

HARDWARE

Network Interfaces
10/100BASE-TX, 100BASE-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-TX 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" 12.7 x 16 x 9.4 cm
Product Weight	2.63 lb 1.19 kg

ETHERNET SPECIFICATIONS

Number of Ports	10

7 standard fast Ethernet and 3 combo RJ45/SFP fast Ethernet

RJ45
10/100BASE-TX, auto MDI/MDIX, auto negotiation (speed/duplex mode)

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: 2KM

Port Alarm Relay	Yes

Standards
IEEE 802.1AB: Link Layer Discovery Protocol (LLDP)
IEEE 802.1D-2004: Rapid Spanning Tree Protocol (RSTP)
IEEE802.1p: Class of Service
IEEE 802.1Q: VLAN Tagging and GVRP
IEEE 802.1s: Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1X: Port Based Network Access Control
IEEE 802.3: 10BASE-T
IEEE 802.3ab: 1000BASE-TX
IEEE 802.3ad: Link Aggregation Control Protocol (LACP)
IEEE 802.3x: Flow Control and Back-Pressure
IEEE 802.3z: Gigabit Ethernet Fiber

Internet Protocol
IPv4 and IPv6

MANAGEMENT FEATURES

Configuration Management
Out-Band Management: console port with Command Line Interface (CLI) - similar to Cisco CLI, in-band management: NetVision (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
TFTP/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, Comtrol 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: 10/100Mbps Half-Duplex Only

Class of Service (CoS)
IEEE 802.1p: 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
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 severs (primary and secondary), Supports TACACS+

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 LACP 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. Egress filtering for all packet types

Switch Technology
32Gbps switch fabric, store and forward switch technology, 8K MAC address

System Throughput
2.967Mbps
64 byte packet size

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

Packet Buffer
1MBits shared memory

Traffic Prioritization (QoS)
Supports 4 physical queues, weighted Round Robin queuing (WRR 8:4:2:1) and strict priority scheme (IEEE 802.1p COS tag and IPv4 ToS/ diffserv information) to prioritize industrial network traffic

VLAN
IEEE 802.1Q: tag VLAN with 256 (Max) VLAN entries, 2K GVRP entries; 3 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 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
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 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)	2
DC Input Voltage	24VDC
Current Consumption (24VDC)	1A Maximum

ENVIRONMENTAL SPECIFICATIONS

Air Temperature

System On	-40° to 74° C
System Off	-40° to 85° C

Operating Humidity
Non-condensing 5% to 95%

MTBF (Mean Time Between Failures)
34.6 years

EXPORT INFORMATION

Packaged Shipping Weight	3.9 lbs 1.77 kg
Package Dimensions	11.3" x 5.5" x 9.1" 28.7 x 13.97 x 23.11 cm
UPC Code	7-56727-32062-3
ECCN	5A992
Schedule B Number	8517.62.0050

REGULATORY APPROVALS

Emissions
Canadian EMC Requirements
ICES-003
European Standard EN55022
EN61000-3-2
CISPR 22
FCC Part 15 Subpart B
Class A 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/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
IEC 1000-4-11/EN61000-4-11: DIPS and Voltage Variations

Safety
IEC 60950/EN60950 (LISTED)
CSA C22.2 No. 60950/UL60950 Third Edition

Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
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 TS2 Certified

Other Regulatory Approvals

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

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