COMTROL
Pepperl+Fuchs

POE SWITCH

RocketLinx® ES7510-XT

Part Number: 32046-3

KEY FEATURES AND BENEFITS

- Integrate IP cameras, access points and other PoE devices
- Supports TACACS+
- Eight 10/100BASE-TX PoE Plus ports and two Gigabit RJ45/SFP combo ports featuring Digital Diagnostic Monitoring (DDM)
- PoE ports support both IEEE 802.3af (15.4W) and the latest high power IEEE 802.3at standards (30W)
- Eco-Friendly Power Budget Efficiency Mode
- Easy setup and administration via Netvision application, web page or Cisco-like command line interfaces
- Advanced redundant ring support with 5ms recovery time, for up to 4 x 100M rings plus two Gigabit uplink rings
- Advanced security features include Port Security, Access IP List, HTTPS and SSH login
- SNMP and IEEE 802.1AB LLDP for network management
- Tag-VLAN supporting multiple VLAN traffic isolation
- LACP port trunking for bandwidth aggregation to support video surveillance
- Redundant DC power inputs and multiple event relay output for advanced device alarm control
- Extended operating temperature -40° to 75°C
- NEMA TS2 certified
- RoHS2 compliant under CE
- IPv6 support

NEMA TS2 | EXTENDED TEMPERATURE RATINGS | PoE POWER OVER ETHERNET | IPORTVISION nx MANAGEMENT SOFTWARE

PRODUCT DESCRIPTION

PoE Plus Supporting High Power Devices

The Comtrol RocketLinx ES7510-XT managed industrial PoE Plus switch is designed to meet the high power and advanced management needs of critical traffic applications such as real-time IP video surveillance and wireless communication utilizing outdoor rated IP cameras and high power IEEE 802.11 access points. Featuring a rugged design for harsh environments, intuitive web, CLI, SNMP management options, power scheduling and eight fully compliant IEEE 802.3at PoE injector ports, the ES7510-XT is easily installed in industrial settings and traffic cabinets supporting even the most power intensive devices such as IP cameras with heaters and pan/tilt/zoom controls.

Innovative Power Control

In addition to functioning as a PoE power source, the ES7510-XT includes advanced device controls, ensuring that power consumption does not exceed parameters defined by the user. This includes power budget control functions to limit power output on devices not reporting correct consumption rates and device priority options to guarantee power to critical devices while avoiding power supply overloads.

Management and Security

The RocketLinx ES7510-XT is equipped with full Layer 2+ management capabilities to provide the most flexible network configuration and control. Features like Link Aggregation Control Protocol allow grouping of multiple ports to enhance bandwidth and provide load balancing while Port-Based VLAN, QoS, IGMP Snooping, and Rate Control features enable optimum control over the network environment. In addition to the full array of management capabilities, the ES7510-XT also supports the most advanced security features to protect the network and guarantee secure, reliable data transmission. Fault relay and e-mail notification of event alarms, DHCP supporting IP and MAC binding, IEEE 802.1X network access control, SSH, and many other controls are included to make secure administration and management a simple task.

ROCKETLINX SPECIFICATIONS

HARDWARE

Network Interface
10/100BASE-TX PoE Plus
10/100/100BASE-TX
100BASE-FX, 1000BASE-SX/LX/LHX/XD/ZX Gigabit Fiber

Connector Type
Eight - RJ45
Two - RJ45/SFP Combo

Enclosure
IP30 Grade Steel Metal Case with Aluminum panel housing for heat dissapation

Installation Method
DIN rail
Wall or panel mount

LED Indicators
Power 1/2
System Status
Ring Status
DI and DO Status
Ethernet Port Link/Activity
PoE Status
Gigabit Port Link/Activity

Digital Input (DI)/Digital Output (DO)
4-pin screw terminal block with one DI and one DO (Dry Relay Output)

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

Thermal Monitoring
Embedded board-level thermal detector for main-chip temperature monitoring

Dimensions	5.0" x 6.3" x 3.7" 12.7 x 16 x 9.4 cm
Product Weight	1.85 lbs 1.29 kg

ETHERNET SPECIFICATIONS

Number of Ports
Ten: 8 - RJ45 and 2 - RJ45 SFP combo Gigabit uplink

RJ45
8 RJ45: 10/100BASE-TX PoE Plus
2 RJ45: 10/100/1000BASE-TX
Auto MDI/MDIX, Auto-Negotiation (Speed/Duplex Mode)

SFP DDM (Optional)
100BASE-FX Fiber, 1000BASE-SX/LX/LHX/XD/ZX
Auto-Negotiation (Speed/Duplex Mode)

Cable Types
Cat 3, Cat 4, Cat 5, Cat 5e, Cat 6 (UTP or STP)

Link Distances
RJ45: 100 meters
SFP Model

Port Alarm Relay	Yes

Transfer Packet Size
64 bytes to 1522 bytes (includes double VLAN tag)

Standards
IEEE 802.3af PoE
IEEE 802.3at LLDP PoE Plus
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-2003: 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: Port Trunking with Link Aggregation Control Protocol (LACP)
IEEE 802.3u: 100BASE-TX Fast Ethernet and 100BASE-FX Fast Ethernet Fiber
IEEE 802.3x: Flow Control and Back-Pressure
IEEE 1588-2008: Precision Time Protocol (PTP)

Internet Protocol	IPv4 and IPv6

PoE FEATURES

PoE Modes
802.3af
802.3at (2-event)
802.3at (LLDP)
Forced

Number of PoE Plus Injector Ports	8

PSE Type
802.3at Type 2
Alternative A

Maximum Power/PoE Port (Max.)
15.4W (IEEE 802.3af)
30W (IEEE 802.3at)

Total Power Budget (Max.)	120W at 75°C

Standard PoE Voltage Output
Yes
IEEE 802.3af compliant - 47-57VDC
IEEE 802.3at compliant - 50-57VDC

PoE Control
Enable or disable PoE, set/port PoE mode, power budget, power budget mode (auto/manual), and schedule-based PoE functions

Power Budget Warning Level	Yes

PoE Powered Device Check
Real-time status monitoring of PoE PDs with an option to reset the PoE PD

Real-time PoE Status	Yes

PoE Output Pin-Out (RJ45)
Pins 1, 2 - V+
Pins 3, 6 - V-

PoE Scheduling
PoE ports are configurable as On/Off by hourly/daily/weekly basis

MANAGEMENT FEATURES

Configuration and Monitoring
Out-Band Management: Console Port with Command Line Interface (CLI) - Similar to Cisco CLI, In-Band

Management: 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
Provides 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, Port-based DHCP server configuration and DHCP relay agent (Option 82)

NETWORK PERFORMANCE

Back-Pressure
IEEE 802.3x 1000Mbps Half-Duplex only

Class of Service (CoS)
IEEE 802.1p 4 priority queues/port

Flow Control Pause Frame
IEEE 802.3x 10/100/1000Mbps Full-Duplex

GMRP
GARP Multicast Registration Protocol

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

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

Loop Protection
Provides Layer 2 loop prevention through the STP, RSTP, and MSTP. Loop protection increases the efficiency of STP, RSTP, and MSTP by preventing ports from moving into a forwarding state that would result in a loop in the network

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)

Packet Buffer Memory
1MBits

Port-Based Network Access Control
IEEE 802.1X: Supports user authentication by the RADIUS account, password and key for the RADIUS servers (Primary and Secondary), Supports TACACS+

Port Configuration
Port Link Speed, Link Mode, Port Status, 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 including gigabit Ethernet ports

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/forward switch technology, 8K MAC address

System Throughput
8.3 Mega packets/sec
14,880pps - 10Mbps; 148,800pps - 100Mbps; 1,488,100pps - 1000Mbps

Time Synchronization
Supports IEEE 1588-2008 (PTP) and NTP protocols with daylight savings and localized time sync function

Prioritization (QoS)
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 and 2K GVRP entries; 3 VLAN link modes; trunk, hybrid, and link access IEEE 802.1 QinQ supports double VLAN tag function for implementing metro network topologies

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
IEEE 802.1s MSTP, each MSTP instance can include one or more 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 4 100M rings and up to 2 Gigabit rings in one switch

ELECTRICAL SPECIFICATIONS

Device Power Input Voltage (DC1/DC2)
(Positive or Negative)

802.3af	48VDC (48-57VDC)
802.3at	53VDC (50-57VDC)

Device Power Consumption

Without PD Load (Max.)	15W
With PD Load (Max.)	140W

Power Connector Type
One 4-pin terminal block for DC1/2

Power Input Redundancy
Dual Redundant Inputs

PSU Type	Passive
Reverse Polarity Protection	Yes
Digital Output (Relay Output)	1
DC Input Voltage	24VDC
Current Consumption (24VDC)	0.5A maximum

Multi-Event Relay Feature
Power, Port Link, Ring Status Change, Ping, Ping Reset, Dry Output, and DI

ENVIRONMENTAL SPECIFICATIONS

Air Temperature

System On	-40° to 75°C
System Off	-40° to 85°C

Operating Humidity (non-condensing)
0% to 95%

MTBF
(Mean time between failures) 50.9 years

EXPORT INFORMATION

Packaged Shipping Weight	4.1 lbs 1.86 kg
Package Dimensions	11.3" x 5.5" x 9.1" 287 x 140 x 231 mm
UPC Code	7-56727-32046-3
ECCN	5A992
Schedule B Number	8517.62.0050

REGULATORY APPROVALS

Emissions
European Standard EN55022
AS/NZS 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

Vibration	IEC 61373
Shock	IEC 61373

Other
RoHS2 compliant under CE
NEMA TS2 compliant

Regulatory Approvals

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

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