



RocketLinx® ES7510

Part Number: 32035-7



PoE SWITCH

KEY FEATURES AND BENEFITS

- Eight 10/100BASE-TX PoE Plus ports and two 1000BASE-TX Gigabit uplink ports
- PoE ports supporting both 15.4W IEEE 802.3af and 30W high power IEEE 802.3at standards
- Total PoE Power Budget of 220W with maximum 30W per port
- Advanced redundant ring support with 5ms recovery time, for up to 4 x 100M Rings plus one Gigabit Ring
- 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 alarm relay output
- AC 1.5KV Hi-Pot isolation protection for ports and power
- Wide operating temperature -40° to 70°C
- RoHS2 compliant under CE
- IPv6 support

PRODUCT DESCRIPTION

PoE Plus Supporting High Power Devices

The Control RocketLinx ES7510 managed industrial PoE Plus switch is designed to meet the high power and advanced management needs of critical PoE applications such as real-time IP video surveillance and wireless communication utilizing Wimax and 802.11 a/b/g/n 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 is easily configured to deliver up to 30W for even the most power intensive devices such as IP cameras utilizing heaters and pan/tilt/zoom controls.

Innovative Power Control

In addition to functioning as a PoE power source, the ES7510 includes features to enhance control of devices, ensuring that power consumption does not exceed parameters designed 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 budget overloads.

Management and Security

The RocketLinx ES7510 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 also supports the most advanced security features to protect the network and guarantee secure, reliable data transmission. Fault relay and email notification of event alarms, DHCP supporting IP and MAC binding, IEEE 802.1X Access Control, SSH, and many other controls are included to make secure administration and management a simple task.



connect. communicate. control.

ROCKETLINX SPECIFICATIONS

HARDWARE

Network Interface

Eight - 10/100BASE-TX PoE Plus
Two - 10/100/1000BASE-TX Gigabit Uplink

Connector Type

RJ45

Enclosure

IP30 grade steel metal case

Wall or panel mount

LED Indicators

Power, System Status, Ring Status, Alarm, Ethernet Port Link/Activity, PoE Status, Gigabit Port Link/Activity

Digital Output (DO)

One DO (Dry Relay Output), 6-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

Thermal Monitoring

Embedded board-level thermal detector for main-chip temperature monitoring - UNKNOWN

Dimensions

(without mounting kit)	7.3" x 2.6" x 6.25" 185 x 145 x 63.8 mm
(with mounting kit)	11.7" x 2.6" x 6.25" 296.5 x 145 x 63.8 mm

Product Weight

2.75 lbs
1.25 kg

ETHERNET SPECIFICATIONS

Number of Ports

Ten: RJ45
8 - 10/100BASE-TX PoE Plus
2 - 10/100/1000BASE-TX Gigabit Uplink

RJ45

Auto MDI/MDIX, Auto-Negotiation (Speed/Duplex Mode)

Cable Types

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

Link Distances

100 meters

Port Alarm Relay

Yes, digital output

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
IEEE 802.3x: Flow control and back-pressure
IEEE 1588: Precision Time Protocol (PTP)

Internet Protocol

IPv4 and IPv6

PoE FEATURES

PoE Modes

802.3af

802.3at

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.)

220W

Standard PoE Voltage Output

IEEE 802.3af compliant - 44-57VDC

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, 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, Port-based DHCP server configuration and DHCP relay agent (Option 42)

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)

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 6 ports and maximum 4 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

14880pps - 10Mbps; 148,800pps - 100Mbps; 1,488,100pps - 1000Mbps, Max packet size 1632

Time Synchronization

Supports IEEE 1588 NTP protocol with Daylight Saving function and Localize Time Sync function

Traffic

Supports 4 physical queues, weighted fair queuing and strict priority scheme, which follows IEEE

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

NETWORK REDUNDANCY

Rapid Spanning Tree Protocol (RSTP)

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 16 Rapid Super Rings, supports up to 4 Gigabit Rings in one switch

ELECTRICAL SPECIFICATIONS

Device Power Input Voltage (DC1/DC2)

Positive or Negative	
IEEE 802.3af	48VDC (48-57VDC)
IEEE 802.3at	53VDC (50-57VDC)

Device Power Consumption

Without PD Load (max.)	28W
IEEE 802.3af Mode (max.)	144W
IEEE 802.3at Mode (max.)	262W

Power Connector Type

(1) 6-Pin Screw Terminal Block for DC1/2 and alarm

Power Input Redundancy

Dual redundant inputs

Reverse Polarity Protection

Yes

Digital Output (Relay Output)

DC Input Voltage 24VDC
Current Consumption (24VDC) 1A Maximum

Multi-Event Relay Feature

Port link, Ring status change, Ping, Ping reset and Dry Output

ENVIRONMENTAL SPECIFICATIONS

Air Temperature

System On	
802.3af (15.4W x 8 Ports)	-40° to +70° C
802.3at (30W x 8 Ports)	-40° to +60° C
System Off	-40° to +85° C

Operating Humidity (Non-Condensing)

0% to 95%

MTBF (Mean Time Between Failures)

37.5 years

EXPORT INFORMATION

Packaged Shipping Weight

4.2 lbs

Package Dimensions

1.91 kg

UPC Code

11.3" x 5.5" x 9.1"

ECCN

28.7 x 13.97 x 23.11 cm

Schedule B Number

7-56727-32035-7

5A992

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

Regulatory Approvals



Warranty Information

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

Sales Support

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