

RocketLinx® ES8508F-S-XT

Part Number: 32011-1 (Single-Mode)

RocketLinx® ES8508F-M-XT

Part Number: 32012-8 (Multi-Mode)



KEY FEATURES AND BENEFITS

- Six 10/100BASE-TX and two SC fiber ports (2KM or 30KM)
- TACACS+ Support
- Advanced Layer 2 features including: VLAN, Private VLAN, QinQ, GVRP, QoS, IGMP Snooping V1/V2/V3, rate control, port trunking, LACP, and online multiport mirroring
- 32Gbps non-blocking, 8K MAC address table
- RSTP, MSTP and redundant ring support with sub 5ms ring recovery
- Management via Web, PortVision® DX, SNMP, Telnet, and Serial Console
- Hardware watchdog timer for system reset and recovery
- Configurable multi-event alarm output
- IP31 rated rugged aluminum housing with DIN rail mounting
- Dual 10-60VDC redundant power inputs
- Wide operating temperature (-40° to 75°C)
- IPv6 support
- NEMA TS2 certified
- EN50121-4 EMC and IEC 61373 vibration standards for railway applications



PRODUCT DESCRIPTION

The RocketLinx ES8508F-XT is an industrial-grade managed 8-port switch with built-in fiber ports that features advanced Layer 2 management, security, and system reliability for deployment in extreme and mission critical networking applications.

The ES8508F-XT design incorporates the latest managed switch technologies to ensure reliable, high-bandwidth data

communications including a 32Gbps switch fabric for real-time non-blocking data transmission, redundant network topology supporting ring, RSTP and MSTP, and a high performance ARM9 processor with an embedded hardware watchdog timer. These features combined with a rugged IP-31 grade housing and extended operating temperature guarantee performance and stability for traffic, rail, and other demanding applications.

ROCKETLINX SPECIFICATIONS

HARDWARE

Network Interface

10/100BASE-TX, 100BASE-FX Single and Multi-Mode

Connector Type RJ45
Duplex SC

Enclosure

IP31 grade aluminum metal case
Drop-waterproof and dustproof

Installation Method DIN rail

LED Indicators

Power 1, power 2, system status ring, digital input,
digital output RJ45 link/activity

Digital Input (DI)

One DI, 4-pin screw terminal block

Digital Output (DO)

One DO (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 5.2" x 5.9" x 2.15"
132 x 150 x 55 mm

Product Weight 2 lbs
.91 kg

ETHERNET SPECIFICATIONS

Number of Ports

6 – 10/100BASE-TX
2 – 100BASE-FX (Single and Multi-Mode)

RJ45 (Standard)

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

Cable Types

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

Optical Fiber

Fiber Cable Type (Single-Mode)	8-10/125um
Fiber Cable Type (Multi-Mode)	50-62.5/125um
Wavelength	1310nm
Transmit Power (Min)	-15dBm (Single-Mode) -20dBm (Multi-Mode)
Transmit Power (Max)	-8dBm (Single-Mode) -14dBm (Multi-Mode)
Receive Sensitivity (Min)	-34dBm (Single-Mode) -31dBm (Multi-Mode)
Receive Sensitivity (Max)	0dBm
Link Budget	19dB (Single-Mode) 11dB (Multi-Mode)

Link Distance

RJ45	100 meters
Fiber	30KM (Single-Mode) 2KM (Multi-Mode)

Port Alarm Relay

Yes

Standards

IEEE802.1AB: Link Layer Discovery Protocol (LLDP)
IEEE802.1D-2004: Rapid Spanning Tree Protocol (RSTP)
IEEE802.1p: Class of Service
IEEE802.1Q VLAN Tagging and GVRP
IEEE802.1s: Multiple Spanning Tree Protocol (MSTP)
IEEE802.1x: Port Based Network Access Control
IEEE802.3:10BASE-T
IEEE802.3ad: Link Aggregation Control Protocol (LACP)
IEEE802.3u:100BASE-TX
IEEE802.3x: Flow Control and Back-Pressure
IEEE1588: Precision Time Protocol (PTP)

Internet Protocol

IPv4 and IPv6

MANAGEMENT FEATURES

Configuration Management

NetVision
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
and DHCP agent (option 82)

NETWORK PERFORMANCE

Back-Pressure

IEEE 802.3x 10/100Mbps half-duplex only

Class of Service (CoS)

IEEE 802.1p 4 priority queues/port

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 IEEE 1588 (precision time protocol), NTP
protocol with daylight saving function, and localized
time sync function

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 4 ports and maximum 4 trunk groups

Port-Based Network Access Control

IEEE 802.1X with RADIUS control, supports user authenticat-
ion by the RADIUS account, password and key for RADIUS server
authentication, TACACS+

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

26 mega packets/second, 64 byte packet size,
14,880pps (10Mbps); 148,800pps (100Mbps)

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,
which follows 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

Modbus TCP/IP

Supports Modbus TCP/IP communications with function
code 4 for factory automation through the CLI, operates
as slave/server device, while a typical master/client
device is a host computer running appropriate through
Ethernet, thus 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 802.1

Multiple Spanning Tree Protocol

IEEE 802.1s MSTP, each MSTP instance can include one
or more VLANs and supports multiple RSTP 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 Rapid Super
Rings, Supports Up to 4 Fast Ethernet Rings/Switch

ELECTRICAL SPECIFICATIONS

Device

DC Input Voltage (Positive or Negative)	10 – 60VDC
Current Consumption (24VDC)	625mA
Power Consumption (Max)	15W
Number of Power Connectors	2
Power Connector Type	4-Pin Screw Terminal Block
Power Input Redundancy	Dual Redundant Inputs
Reverse Polarity Protection	Yes
Digital Input	1 with Photo Optical Isolation
Logic Low (0)	0 to 10VDC
Logic High (1)	11 to 30VDC
Digital Output (Relay Output)	1
DC Input Voltage	24VDC
Current Consumption (24VDC)	1A Maximum
Multi-Event Relay Feature	Power, Port Link, DI/Ring Status Change, Ping Reset, or Perform Routing Relay On/Off Function

ENVIRONMENTAL SPECIFICATIONS

Air Temperature

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

Operating Humidity

(Non-condensing) 5% to 95%

MTBF

(Mean Time Between Failures) 75.4 years

EXPORT INFORMATION

Package Shipping Weight

2.77lbs
1.26kg
9 13/16" x 8 5/16" x 4 1/8"
24.9cm x 21.1cm x 10.5cm

Package Dimensions

UPC Code

Single-Mode	7-56727-32011-1
Multi-Mode	7-56727-32012-8
ECCN	5A991
Schedule B Number	8517.62.0050

REGULATORY STANDARDS

Emission

Canadian EMC Requirements
ICES-003
European Standard EN55022
CISPR 22
FCC Part 15 Subpart B
Class A Limit
Heavy Industrial
IEC 1000-6-4/EN61000-4-9: Pulse Magnetic Field

Immunity

Heavy Industrial IEC/EN 61000-6-2:
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

Railway EMC

EN 50121-4: Signaling and Telecommunications Apparatus
EN 50121-1: Rolling Stock. Train and Complete Vehicle

Hi-Pot

AC 1.5KV for all ports and power

Other Regulatory Approvals

Traffic NEMA TS2 Certified
Railway Vibration/Shock:
IEC 61373
Free Fall with Package:
IEC 60068-2-32
RoHS2 compliant



Warranty Information

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

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
ftp.comtrol.com
www.comtrol.com