The RocketLinx ES8509-XT is a managed industrial Ethernet switch that brings the speed of nine full Gigabit Ethernet ports together with the flexibility of five DDM capable SFP fiber communication ports in a managed, wide-temperature rated switch ideal for traffic and industrial-grade networks. The combination of Gigabit copper and SFP ports along with advanced management capabilities such as IGMP snooping, LACP, 256 VLAN support, multiple redundant ring configuration, and extensive security features places the RocketLinx ES8509-XT in a class by itself for meeting the high-bandwidth, wide-area requirements of the most demanding industrial network infrastructures.

The RocketLinx ES8509-XT is housed in a rugged aluminum enclosure featuring an excellent heat dispersing design and supporting a wide operating temperature that meets NEMA TS2 standards. The embedded software supports full Layer 2 management features, multi-form ring redundancy, network control, monitoring, security, and notification. The RocketLinx ES8509-XT also includes a built-in watchdog timer and digital input and relay output for event notification and problem alerts. The RocketLinx ES8509-XT provides the perfect foundation for building your industrial Ethernet or traffic and transportation network.

**Five Gigabit SFP Ports for Flexible Network Planning**

A unique feature of the RocketLinx ES8509-XT is the five Gigabit RJ45/SFP combo ports, which can improve performance dramatically compared to products with fewer Gigabit RJ45/SFP ports. Each combo comes with a flexible connection, as well as fiber or copper connection options. By selecting the appropriate fiber transceivers, the RocketLinx ES8509-XT offers the flexibility to meet your industrial application requirements with virtually any transmission distance.
ROCKETLINEX SPECIFICATIONS ::

HARDWARE
Network Interfaces
10/100/1000BASE-TX, 100BASE-FX
100BASE-SX/LX/HDX/2X Gigabit Fiber
Connector Type
4 RJ45
5 SFP
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 and link speed
SFP port link/activity and link speed
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: 5.0” x 6.3” x 3.7”
Weight: 2.9 lbs
2.9 kg

ETHERNET SPECIFICATIONS
Number of Ports
9

RJ45
10/100/1000BASE-TX, auto MDI/MDIX, auto-negotiation
(speed/duplex mode)
SFP (Optional)
100BASE-FX fiber, 100BASE-SX/LX/HDX/2X gigabit fiber
(auto MDI/MDIX, auto-negotiation (speed/duplex mode))
Cable Types
Cat 3, Cat 4, Cat 5, Cat 5e, Cat 6 (UTP or STP)
Link Distance
RJ45: 100 Meters
SFP - Single-Mode: 30KM, Multi-Mode: 2KM
Port Alarm Relay
Yes
Standards
IEEE 802.3ab: Link Layer Discovery Protocol (LLDP)
IEEE 802.1Q-2004: Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1Q: Class of Service
IEEE 802.1Q-2003: VLAN Tagging and GVRP
IEEE 802.1s: Multi-Port Spanning Tree Protocol (MSTP)
IEEE 802.1x: Port Based Network Access Control
IEEE 802.3: 100BASE-TX
IEEE 802.3ab: 100BASE-T
IEEE 802.3ad: Port Trunking with Link Aggregation Control Protocol (LACP)
IEEE 802.3u: 100BASE-FX Fast Ethernet and 100BASE-FX Fast Ethernet Fiber
IEEE 802.3: Flow Control and Back-Pressure
IEEE 802.3: Gigabit Ethernet Fiber
IEEE 1588: Precision Time Protocol (PTP)
Internet Protocol
IPv4 and IPv6 ready

MANAGEMENT FEATURES
Configuration and Monitoring
Out-of-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
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
Access Control List
DC Permit/deny access control lists
Back Pressure
IEEE 802.3x 10/100Mbps Half-Duplex only
Class of Service (CoS)
IEEE 802.1Q adds 4 priority queues/port
Flow Control Pause Frame
IEEE 802.3x 10/100/1000Mbps Full-Duplex
GMRP
GMRP 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
LLDP
Provides Link Layer Discovery Protocol, advertises system and port identity capability on the local network
Loop Protection
Layer 2 loop prevention through the STP, RSTP, and MSTP RSTP 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 file through Ethernet. The Modbus TCP/IP master can read or write to the Modbus registers provided by the Modbus TCP/IP slave device.
Packet Buffer Memory
1MiB
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 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 4 trunk groups including Gigabit Ethernet ports
Private VLAN
Direct client ports in isolated/community VLAN to promiscuous port in primary VLAN
RADIUS
Login with RADIUS account/password, key for RADIUS server authentication
Rate Control
Ingress filtering for broadcast, multicast, unknown DA or all packets. Egress filtering for all packet types
Switch Technology
25Gbps switch fabric, store and forward switch technology, 8K MAC address
System Throughput
2 megapackets/second. 64 byte packet size, 14.89Gbps - 10Gbps, 14.89Gbps - 100Gbps, 1.489Gbps - 1000Mbps, max packet size 1532
Time Synchronization
IEEE 1588, NTP protocol with daylight saving function, and localized time sync function
Traffic Prioritization (GoS)
Supports 8 priority classes, weighted round robin queuing (WRR 8:2) 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 VLAN Entries; 3 VLAN link modes: trunk, hybrid, and link access
IEEE800.1Q supports double VLAN tag function for implementing metro network topologies

NETWORK REDUNDANCY
Rapid Spanning Tree Protocol
IEEE 802.1Q-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
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
DC Input Voltage (Positive or Negative) 10.5-60VDC
Current Consumption (+24VDC) 800mA
24VDC: 19.2W
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
1 with photo optical isolation
Logic Low (0) 0 to 10VDC
Digital Output (Relay Output)
1
DC input voltage
30VDC
Current consumption (30VDC) 1A Maximum
Multi-Event Relay Feature
Power, port link, Link/hard 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 85° C
Operating Humidity
Non-condensing
5% to 95%
MTBF (Mean Time Between Failures)
28.53 years

EXPORT INFORMATION
Packaged Shipping Weight
2.9 lbs
2.83 kg
Package Dimensions
11.3” x 5.5” x 9.1”
287 x 140 x 231 mm
UPC Code
7-58727-23056-4
ECN
5A992
Schedule B Number
8517.62.0050

REGULATORY APPROVALS
Emissions
Canadian EMC Requirements
ICES-003
European Standard EN50022
CISPR 22
FCC Part 15 Subpart B
Class A Limit
Immunity
European Standard EN50024
IEC 1000-4-2/EN61000-4-2: ESD
IEC 1000-4-4/EN61000-4-4: Fast transient/burst
IEC 1000-4-6/EN61000-4-6: Surge
IEC 1000-4-8/EN61000-4-8: Magnetic field
IEC 1000-4-11/EN61000-4-11: ESD, vibration and voltage variations
Safety
IEC 69509/EN60895 (LISTED)
 CSA C22.2 No. 60590/L08953 Third Edition
Other
RoHS2 compliant under CE
NEMA 78 certified
Regulatory Approvals

RECOMMENDED PRODUCTS

RECOMMENDED PRODUCTS ::

32103-3
PS1040, 40 Watts Industrial DIN Rail Power Supply (24V, 40W, DIN Rail)
1200059
SFP, Multi-Mode, 1000BASE-GSX (Extended Temperature)
1200060
SFP, Single-Mode, 1000BASE-GLX (Extended Temperature)
1200061
SFP, Single-Mode, 1000BASE-GLX-H (Extended Temperature)
1200055
LC-ST Fiber Adapter Cable Multi-Mode
1200056
LC-ST Fiber Adapter Cable Single-Mode

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

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