

JetNet 4518-w

Industrial 18-Port Managed Fast Ethernet Switch



CE FC RoHS

16 + 2 FX Combo	SFP DDM	MSR < 20ms
9 MultiRings	Private VLAN, QinQ	256 VLANs
Modbus TCP	LLDP & Korenix NMS	-40~75°C

- 16 10/100-TX and 2 100M RJ-45/SFP Combo ports (10/100Base-TX, 100Base-FX)
- SFP ports support 100 Fiber with Digital Diagnostic Monitoring (DDM) to monitor long distance fiber quality
- Non-Blocking Switching Performance
- Korenix Multiple Super Ring pattern aggregates up to 9 Rapid Super Rings
- IEEE 802.1s MSTP / IEEE802.1d RSTP for network redundancy
- IEEE 802.1Q Tag VLAN, 256 VLANs, Private VLAN, QinQ, QoS, 8 Port Trunk Groups
- IGMP Snooping, GMRP Rate Control for multicast message management
- Supports LLDP and Korenix NMS software for auto topology visualization and efficient group management
- Supports Modbus TCP/IP for Factory Automation
- SNMP V1/V2c/V3, RMON for remote management
- Advanced Security supports 802.1x and Access Control List for field IP devices' protection
- Dual 24V (12-48V) DC power inputs
- IP31 rugged aluminum case
- -40~75°C operating temperature for harsh industrial environments

Overview

The JetNet 4518-w is an 18-port Industrial Managed Ethernet Switch, specifically designed for industrial environments requiring high port density.

In addition to the 16 Fast Ethernet ports, JetNet 4518-w is equipped with additional 2 10/100Base-TX/100Base-FX SFP Combo ports, which can be configured for a variety of cabling types and distances depending on your specific environmental needs.

With the non-blocking switching performance, JetNet 4518-w provides 12.8G backplane which ensures the traffic switching without data loss and blocking.

Combining rugged IP-31 enclosure, great heat dissipation and -40~75°C wide operating temperature range, JetNet 4518-w assures data running smoothly under severe industrial environments.

The embedded software supports standard 802.1s

MSTP, 802.1D-2004 RSTP and Korenix Multiple Super Ring (MSR) technology for ring redundancy protection. The Korenix MSR supports up to 5ms short recovery time. With its MultiRing design, the 18 front ports allow users to aggregate up to 9 100M copper rings or 8 100M copper plus 1 fiber rings. This is a unique and Korenix patent protected ring technology.

Besides, JetNet 4518-w supports full layer 2 management features, such as VLAN, Private VLAN, QinQ, IGMP Snooping, LACP for network control, SNMP, LLDP for network management. The secured access is protected by Port Security, 802.1x and flexible Layer 2/4 Access Control List. With JetNet 4518-w, you can fulfill the technicians' needs of having the best solution for the large scale industrial Ethernet infrastructure.

High Port Density and Flexible Fast Ethernet Connectivity

The JetNet 4518-w is equipped with 16 100M Fast Ethernet plus 2 Fast Ethernet RJ-45/SFP combo ports and therefore can be used in networks requiring high port density.

Each of the two combo ports combines one Small Form factor Pluggable (SFP) socket for 100Mbps multi-mode or single-mode transceiver, as well as one RJ-45 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.

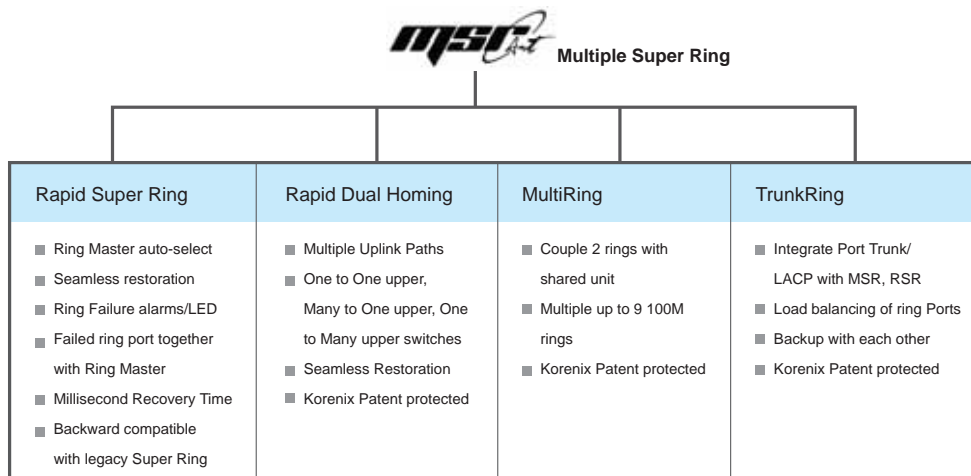
You can choose different types of SFP transceivers for your switch, depending on the environmental needs, the distance or the installed fiber/copper cable types.

Users are able to connect two 100Mbps SFP ports of JetNet 4518-w as a Fast Ethernet Fiber Redundant Ring topology.

Multiple Super Ring (MSR™) Aggregation Capability

The JetNet 4518-w supports the new generation ring technology – MSR™ which includes various new technologies for redundancy applications and structures of different networks.

The JetNet 4518-w allows to aggregate up to 9 Rapid Super Rings, including 8 copper plus 1 Fiber / Copper rings in a single switch. The Korenix protected pattern eases your network planning while maximizing network performance and reliability .



Industrial
Intelligent
NMS

Rackmount
PoE Plus
Switch

Industrial
PoE Plus
Switch

Industrial
12-24V
PoE Switch

Industrial
PoE Switch

Rackmount
L3/L2 Switch

Gigabit
Managed
Switch

Managed
Ethernet
Switch

Entry-level
Switch

Wireless
Outdoor AP

Embedded
PoE/Router
Computer
(LINUX)

Industrial
Communication
Computer
(WIN/LINUX)

Ethernet/PoE/
Serial Board

Ethernet
I/O Server

Media
Converter

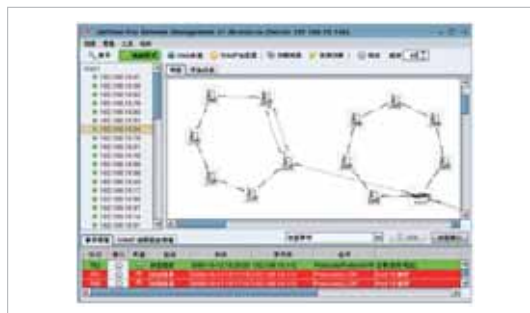
Serial Device
Server

SFP Module

Din Rail
Power Supply

Auto Topology Discovery & Efficient Management

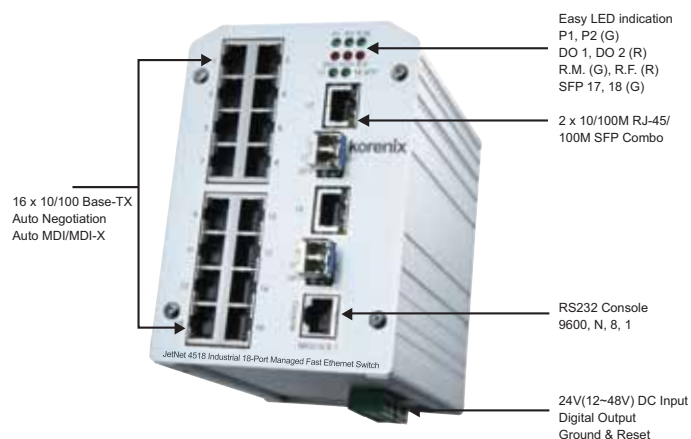
JetNet 4518-w supports topology discovery or LLDP (IEEE 802.1AB Link Layer Discovery Protocol) function that can help users to discover multi-vendor's network devices on the same segment by an NMS system, which support LLDP function. With LLDP function, NMS can easily maintain the topology map, display port ID, port description, system description, VLAN ID, etc.. Once a link failure happens, the topology changed events are updated to the NMS to help users easily maintain the network system. Besides the SNMP and LLDP protocols, JetNet 4518-w efficiently works with the Korenix patented Korenix NMS, which in addition to the auto-topology discovery, also delivers MSR™ group management, group IP assignment, group firmware upgrade, group configuration file backup/ restore, SNMP



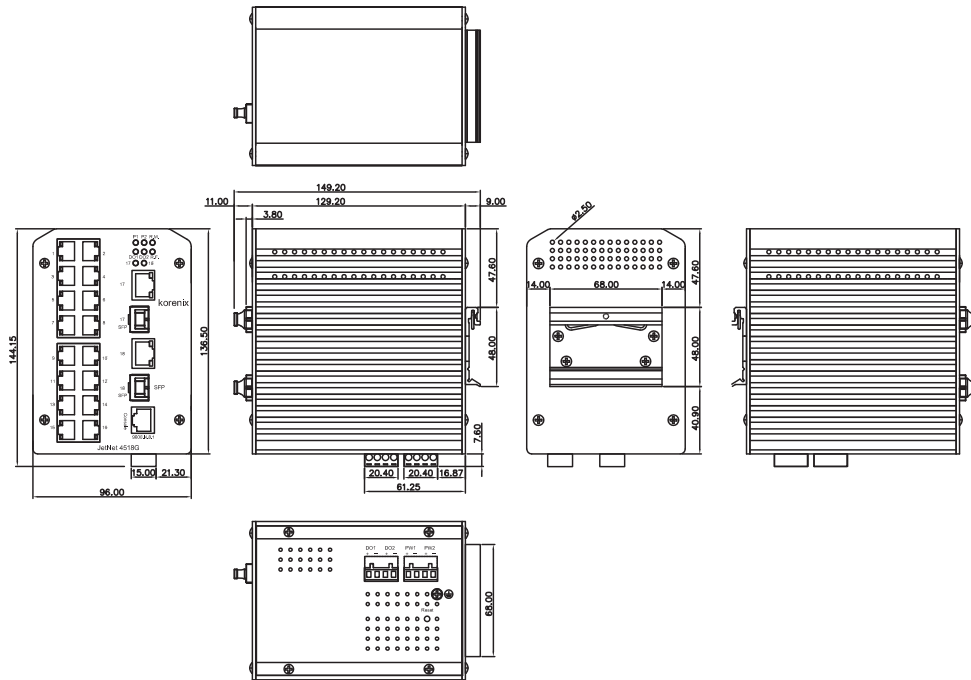
MIB Browser /compiler, etc.

The user-friendly software allows administrators to discover devices automatically and efficiently manage the performance of the large-scale industrial surveillance networks.

JetNet 4518-w Appearance



Dimension (Unit = mm)



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Specification

Technology

Standard:

IEEE 802.3 10Base-T Ethernet
IEEE 802.3u 100Base-TX/FX Fast Ethernet
IEEE 802.3x Flow Control and Back-pressure
IEEE 802.1p class of service
IEEE 802.1Q VLAN and GVRP
IEEE 802.1QinQ
IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE802.3ad Link Aggregation Control Protocol (LACP)
IEEE802.1X Port based Network Access Control
IEEE802.1AB Link Layer Discovery Protocol (LLDP)
Modbus TCP/IP

Performance

Switch Technology: Store and Forward Technology,
12.8Gbps Switch Fabric

System Throughput: 14,880pps for 10M Ethernet,
148,800pps for 100M Fast Ethernet

Transfer packet size: Typical: 64 bytes to 1536 bytes,
Jumbo Frame Enabled: Up to 9,216bytes.

MAC Address: 8K

Packet Buffer: 2Mbits

Management & Security

Configuration: Cisco-Like CLI, Web, SSL, SSH, Korenix
View, Backup/Restore, DHCP Client, Warm reboot, Reset to
default, Admin password, Port Speed/Duplex control, status,
statistic, MAC address table display, Static MAC, Aging time
Jumbo Frame Enable/Disable: up to 9,216KBytes

LLDP: Link Layer Discovery Protocol to advertise system/
port identity and capability on the local network

Modbus TCP/IP: Supports open protocol- Modbus TCP/
IP with function code group 4 for factory automation
application

SNMP: SNMP v1, v2c, v3 and Traps.

SNMP MIB: MIB-II, Bridge MIB, VLAN MIB, SNMP MIB,
RMON and Private MIB

IEEE 1588 Precision Time Protocol (PTP): Synchronize
time from the PTP server

SNTP: Simple Network Time Protocol to synchronize time

Port Trunk: Static Trunk and IEEE 802.3ad LACP, LACP
Timeout, Up to 8 Trunk Group, 2-8 ports per trunk

Rate Control: Ingress and Egress rate limiting

VLAN: IEEE802.1Q VLAN, GVRP. Up to 256 VLANs

Private VLAN: Direct client ports in isolated/community
VLAN to promiscuous port in primary VLAN

IEEE802.1 QinQ: Supports Double VLAN Tag function for
implementing Metro Network topologies



Quality of Service: 4 priority queues per port, IEEE802.1p COS and Layer 3 TOS/DiffServ
IGMP Snooping: IGMP Snooping V1/V2/V3 for multicast filtering and IGMP Query

GMRP: GARP Multicast Registration Protocol

802.1x: Port_based Network Access Control

Radius: Login by Radius account/password, Key for Radius Server Authentication

Port Security: Assign authorized MAC to specific port

IP Security: IP security to prevent unauthorized access

Access Control List: Permit/Deny access control lists

DHCP Server: Support 255 Dynamic IP poll

DHCP Option 82: Relay the DHCP request to remote server

Port Mirroring: Online traffic monitoring

E-mail Warning: Automatic warning by pre-defined events

Syslog: Message logged with server and client mode

Alarm Events: Power and Ports Failure, DO state, Ping Failure, Login Fail, Time Synchronize Fail, Super Ring Topology Change

Network Redundancy

Multiple Spanning Tree Protocol: IEEE802.1s MSTP, each MSTP instance can include one or more VLANs

Rapid Spanning Tree Protocol: 802.1D-2004 RSTP, compatible with Legacy STP

Multiple Super Ring (MSR)TM: Korenix Ring Redundancy Technology, Includes Rapid Super Ring, Rapid Dual Homing, TrunkRing, MultiRing; up to 20ms recovery time on fiber port

Rapid Dual Homing (RDH)TM: Multiple uplink paths to one or multiple upper switch

TrunkRingTM: Integrate port aggregate function in ring path to get higher throughput ring architecture

MultiRingTM: Couple or Multiple 9 100M rings within one switch.

Legacy Super Ring: Backward compatible in client mode

Interface

Number of Fixed Ports:

10/100Base-TX: 18 x RJ-45, Auto MDI/MDI-X, Auto Negotiation

100Base-FX: 2 x SFP with Hot Swappable, combo with copper port 17&18

Cables:

10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable (100m)

100 Base-TX: 2-pair UTP/STP Cat. 5 cable (100m)

Diagnostic LED:

System: Power 1, Power 2, Ring Master (Green), Relay 1, Relay 2, Ring Failure (Red)

10/100 RJ-45: Link/Activity (Green/Green Blinking),

Full Duplex/Collision (Yellow/Yellow Blinking)

100M SFP: Link/Activity (Green/Green Blinking)

RS232 Console: RJ-45 type, Pin: (2: TxD, 3: RxD, 5:GND)

Power: 4-pin removable terminal block connector, with auto polarity reverse function

Relay Output: 4-pin removable terminal block connector

Power Requirements

Power: Dual 24V (12-48V) DC power input

Power Consumption: Max. 15 Watts

Mechanical

Installation: Din Rail or Wall Mount

Case: Aluminum metal case with IP31 protection

Dimension: 137mm(H) x 96mm (W) x 129mm (D)

Weight: 1.5 kg with package

Environmental

Operating Temperature: -40 ~75°C

Operating Humidity: 5% ~ 95% (non-condensing)

Storage Temperature: -40 ~ 85°C

Regulatory Approvals

EMI: FCC Class A, CE/EN55022. Class A

EMS: IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8

Shock: IEC 60068-2-27

Vibration: IEC 60068-2-6

Free Fall: IEC 60068-2-32

Warranty: 5 years

Ordering Information

JetNet 4518-w Industrial 18-Port Managed Fast Ethernet Switch, -40~75°C operating temperature

Includes:

- JetNet 4518-w (without SFP transceivers)
- Din Rail Kit
- Document CD
- Quick Installation Guide
- Console Cable

Optional Accessories

100Base-FX SFP Transceiver

100Base-FX BIDI/WDM SFP Transceiver

100Base-FX SFP Transceiver with DDM

100Base-FX BIDI/WDM SFP Transceiver with DDM