# JetNet 4518-w

## Industrial 18-Port Managed Fast Ethernet Switch

RoHS

16 + 2 FX Combo | MSR < 20ms | 9 MultiRings | Modbus TCP

Private VLAN, QinQ | 256 VLANs | LLDP & JetView Pro | -40~75°C

- 16 10/100-TX and 2 100M RJ-45/SFP Combo ports (10/100Base-TX, 100Base-FX)
- Non-Blocking Switching Performance
- Korenix Multiple Super Ring pattern aggregates up to 9 Rapid Super Rings
- 802.1s Multiple Spanning Tree and RSTP/STP
- IEEE 1588 Precision Time Protocol for precise time synchronization
- 256 802.1Q VLAN, Private VLAN, QinQ, QoS and up to 8 trunk groups
- IGMP Snooping, GMRP Rate Control for multicast message management
- Supports LLDP and JetViewPro i$^2$NMS software for auto topology visualization and efficient group management
- Industrial Modbus TCP protocol for device monitoring
- 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

## 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.

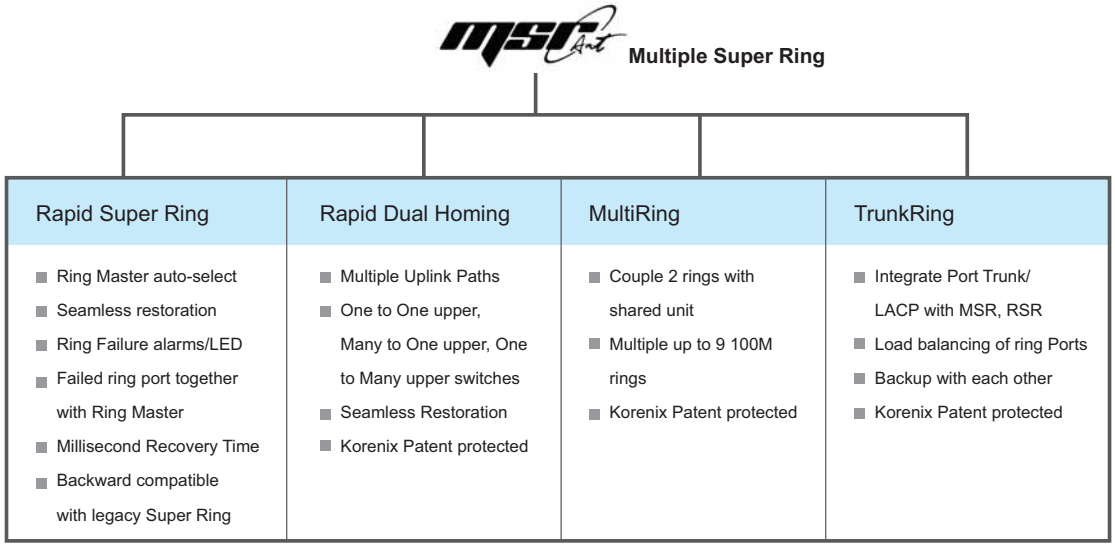
You can choose different types of SFP transceivers for your switch, depending on the environmental needs, the distance or the installed fiber/copper cable types.

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$^{TM}$) Aggregation Capability

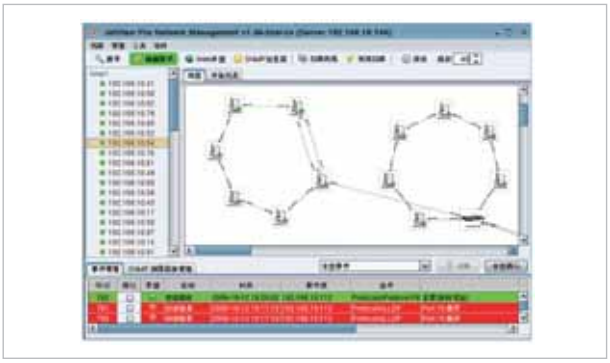
The JetNet 4518-w supports the new generation ring technology – MSR$^{TM}$ which includes various new technologies for redundancy applications and structures of different networks.

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 .



## Auto Topology Discovery & Efficient Management

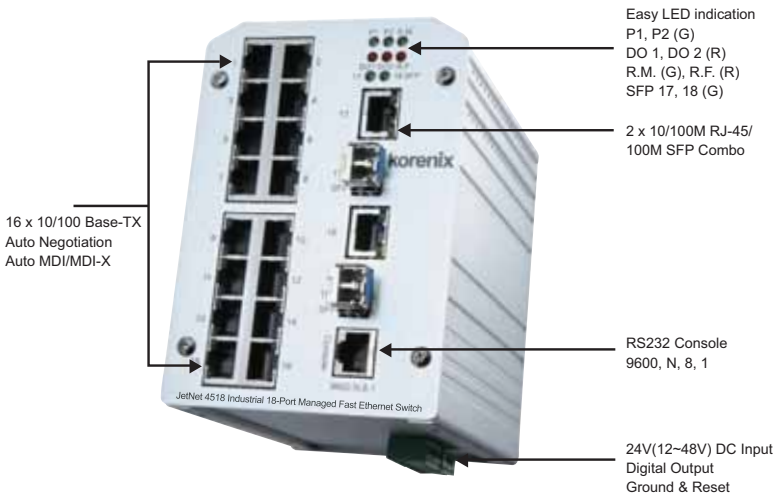
JetNet 4518-w supports topology discovery or LLDP (IEEE 802.1AB Link Layer Discovery Protocol) function that can help users to discover multi-vendor's network devices on the same segment by an NMS system, which support LLDP function. With LLDP function, NMS can easily maintain the topology map, display 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 JetView Pro i$^2$NMS, which in addition to the auto-topology discovery, also delivers MSR$^{TM}$ group management, group IP assignment, group firmware upgrade, group configuration file backup/ restore, SNMP



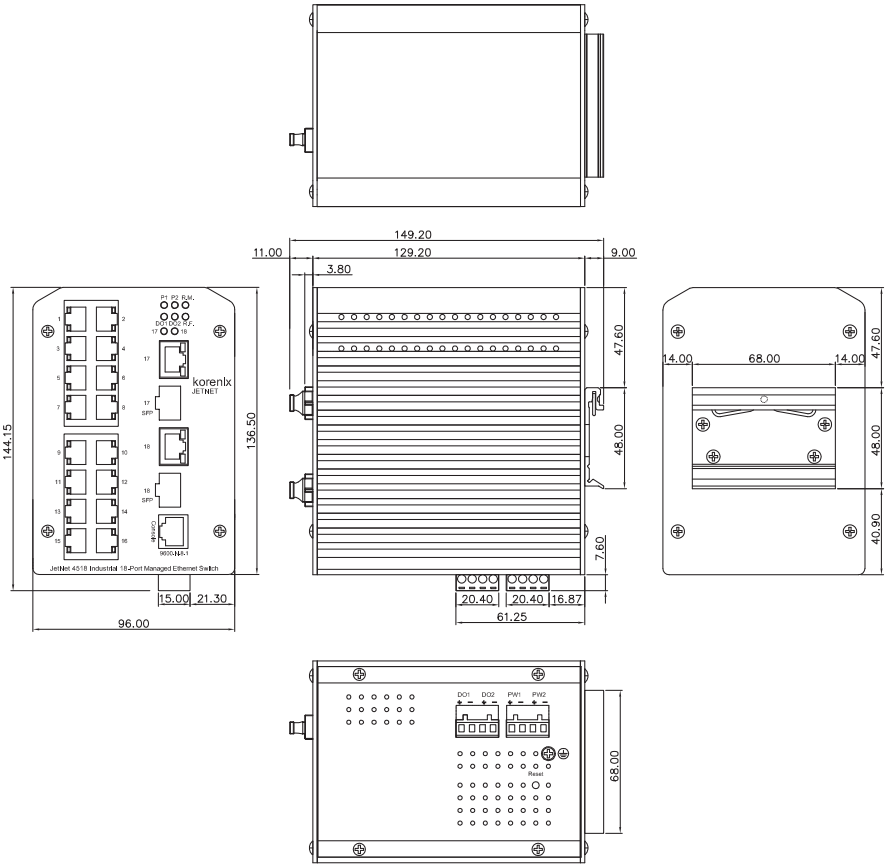
MIB Browser /compiler, etc.

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)




## Specification

### Technology

**Standard:**

IEEE 802.3 10Base-T Ethernet
IEEE 802.3u 100Base-TX Fast Ethernet
IEEE 802.3ab 1000Base-TX
IEEE 802.3x Flow Control and Back-pressure
IEEE 802.1p class of service
IEEE 802.1Q VLAN and GVRP
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, JetView, 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:** Industrial Communication protocol for device monitoring
**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
**QinQ:** Double VLAN Tag in an Ethernet frame

**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)™ :** 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)™:** Multiple uplink paths to one or multiple upper switch
**TrunkRing™:** Integrate port aggregate function in ring path to get higher throughput ring architecture
**MultiRing™:** 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: 2/4-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:** 2 sets of DC inputs
**Relay Output:** 2 sets of Relay Output

## 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:** IEC60068-2-27
**Vibration:** IEC60068-2-6
**Free Fall:** IEC60068-2-32
**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 Multi-Mode SFP Transceiver**

**100Base-FX Single-Mode SFP Transceiver**

**100Base-FX BIDI/WDM Single-Mode SFP Transceiver**