JetNet 5010G

Industrial 7+3G Gigabit Managed Ethernet Switch

RoHS

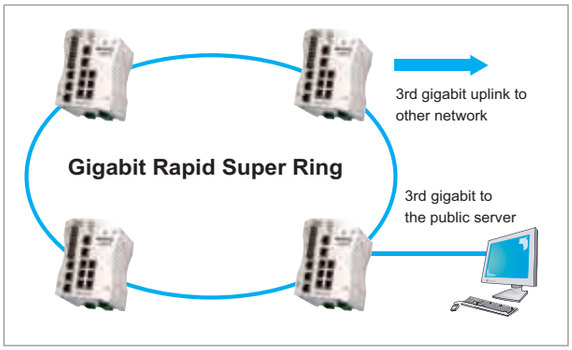
- 7 10/100-TX ports and 3 Gigabit RJ-45/SFP combo ports (10/100/1000 Base-TX, 100 Base-FX, 1000 Base-X)
- Multi-Form Rapid Super Ring (recovery time <5ms), Dual Homing II, Multiple Ring, Any Ring and RSTP
- VLAN, GVRP, QoS, IGMP Snooping V1/V2/V3, Rate Control, Port Trunking, LACP, Online Multi-Port Mirroring
- 7.4Gbps Non-Blocking, 8K MAC address table
- Supports console CLI , Web, SNMP V1/V2c/V3, RMON, HTTPS, SSH and JetView
- Advanced security feature supports IP Security, Port Security, DHCP Server, IP and MAC Binding, 802.1x network access control
- Event Notification by E-mail, SNMP trap, Syslog, Digital Input and Relay Output
- Rigid Aluminum Case Complies with IP31, Curvilineal heat dispersing, Redundant power, DIN-Rail/Wall-Mounting/Desktop Installation

Overview

The JetNet 5010G is a Managed Industrial Ethernet Switch, equipped with 7 ports 10/100TX and 3 ports 10/100/1000 RJ-45/100-FX/Gigabit SX/LX combo ports. The 2 gigabit ports are used to form the non-stop Rapid Super Ring. The 3rd gigabit port is used to connect the upper switch, couple ring or public server. The gigabit combo port design giving flexibility to choose copper or fiber media, 100Base-FX or 1000Base-X, multi-mode or Single mode for different distance and without stocking different switch models. The JetNet 5010G is designed as rugged surface in aluminum material, curvilineal heating dispersing mechanical design and with wide operating temperature. The embedded software supports full Layer 2 management features, multi-form ring redundancy, network control, monitor, security and notification. The JetNet 5010G also provides built-in watchdog timer, digital input and relay output to avoid undetected damage. With JetNet 5010G, you can fulfill the dream of having the perfect solution to construct your industrial Ethernet infrastructure.

3rd Gigabit Uplink for Flexible Network Planning

JetNet 5010G offers astonishing three Gigabit RJ-45/SFP combos which improves the performance dramatically compares to typical two Gigabit RJ-45/SFP combos. Each combo comes with a flexible connection, 100Mbps Single Mode/Multiple mode or 1000Mbps Single mode/Multiple mode, as well as fiber connection or copper connection. All together, end-users can achieve as many as 10 different combinations of ports connection. Also, by selecting a suitable range of fiber transceivers, JetNet5010G can fulfill your industrial applications with any transmit distance.



100 / 1000Mbps SFP Supported

The JetNet 5010G SFP socket supports 100Base-FX Single/Multi mode and 1000Base-SX/LX/LHX/XD Multi/Single mode transceiver. The available distance of the 100Base-FX is up to 30KM. 1000Base-SX multi-mode supports 550M, 1000Base-LX Single-mode supports 10KM, 1000Base-LHX single-mode supports 30KM, 1000Base-XD single-mode supports up to 50KM. 1000Base-ZX single-mode supports up to 70KM

Multi-form Rapid Super Ring

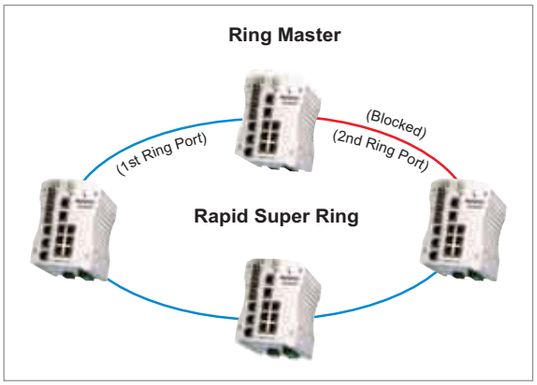
It is critical for industrial applications that network remains non-stop and co-exist with other network. The JetNet 5010G supports Ethernet redundant ring technology- Rapid Super Ring, Korenix 2nd generation Ring redundancy technology. The Ring Master can be auto-selected by the RSR engine. The recovery time of the gigabit fiber ring is enhanced as high as 5ms.

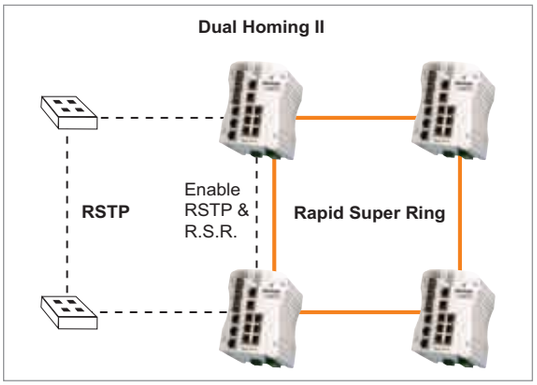
The advanced Dual Homing II technology also facilitates the JetNet 5010G to connect with the core managed switch or copper 2 or multiple Rapid Super Ring. Rapid Super Ring can backward compatible with Super Ring of JetNet 4000/4500 series. Moreover, to make the running with the existing ring, Korenix propose Any Ring to inter-operate with other vendors.

Dual Homing II

Dual Homing II is the advanced feature of Korenix 2nd generation Ring redundancy technology. When you would like to connect multiple RSR or form the redundant topology with other vendors.

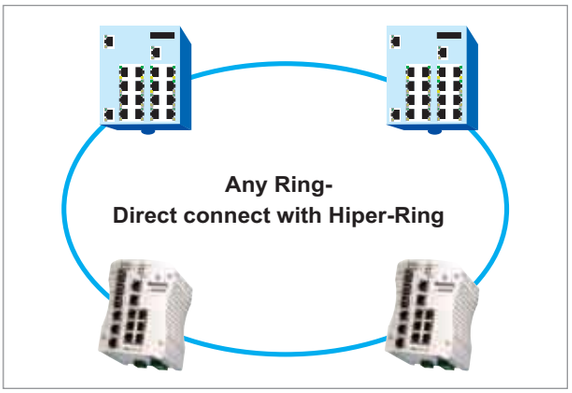
Dual Homing II allows you to enable RSTP and RSR at the same device; therefore you have more flexibility and standard (RSTP) way to construct your network topology.





Any Ring

You may encounter the network expansion problem when you don't satisfy with the original management switch's provider. You invest a lot in their ring management switch and no idea how to replace the installed switch. Any Ring is able to connect other vendor's ring management switch to form a fastest and most reliable ring connection. (Note: The latest supported ring redundancy protocol is listed in the UI.)

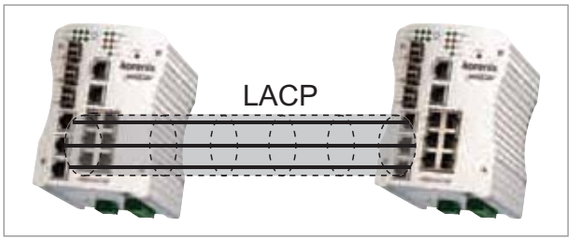


Various Network Control and Security Features

The JetNet 5010G provides various network control and security features. The Network Control feature allows users to optimize their industrial environment. The supported features include VLAN, IGMP Snooping, Quality of Service(QoS), Link Aggregation Control Protocol (LACP), Rate Control. The security can help users to avoid hackers' attack. The features include DHCP Server, IP and MAC Binding, 802.1x Access Control, SSH, IP Access Table and Port Security.

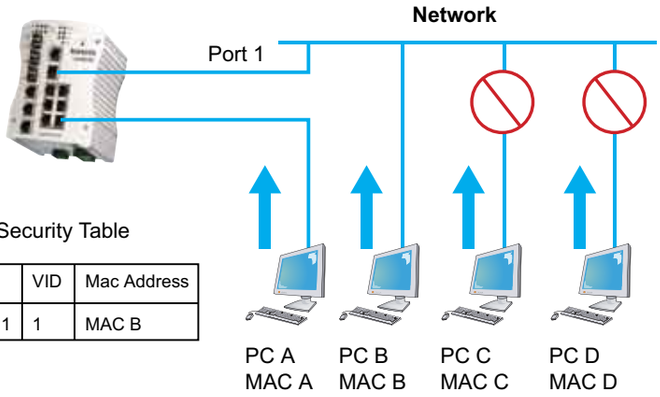
Link Aggregation Control Protocol

Link Aggregation Control Protocol allows you to group multiple Ethernet ports in parallel to increase the link bandwidth. The aggregated ports can be viewed as one physical port, so the bandwidth is higher than just one single Ethernet port. The member ports of the same trunk group can balance the loading and backup with each other. The LACP feature is usually used when you need the wider bandwidth for the backbone network. This is an inexpensive way for you to transfer much more data.



Port Security

Port Security is the enhanced security feature provided by JetNet 5010G. Port Security is also known as Port and MAC binding. The users can bind specific MAC address to the specific port, add the MAC and Port binding entry/entries to the port security table. After enabling this, only the PC with the available MAC address can access the network through the switch. The other PCs can't even pass the traffic through the port.

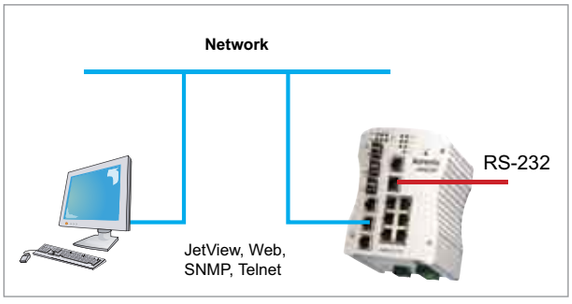


Port Security Table

Port	VID	Mac Address
Port 1	1	MAC B

Easy-to-Configure Network Management Features

The JetNet 5010G also provides users many advanced management features. It can be configured smartly by JetView, Web browser, SNMP, Telnet and RS-232 console Command Line Interface (CLI). Failure notification by E-mail, SNMP Trap, System Log, Digital Input and Fault Relay. The JetNet 5010G also supports built-in Watchdog timer to recover system when detected CPU failure.

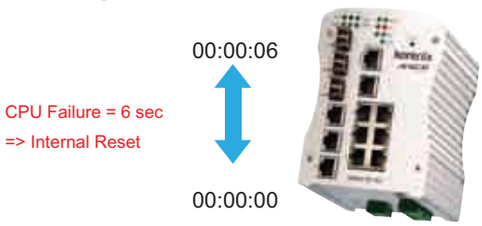


JetView, Easy Management Utility

The JetView is the convenient tool to help administrators to discover the JetNet 5010G/5008GP /4706 series Switches.
It support group IP assignment,group firmware upgrade, group configuration backup and restore.

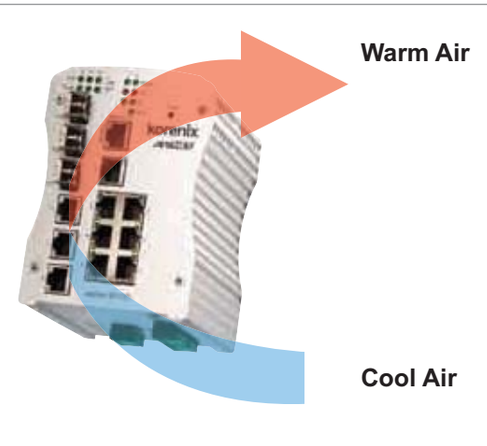
A Built-in Watchdog Timer

With a built-in Watchdog timer, the JetNet 5010G performs a warm boot (restarting the switch) automatically when switch's system locks up. It saves the effort of maintenance for keeping network alive if the switch can recover by itself.

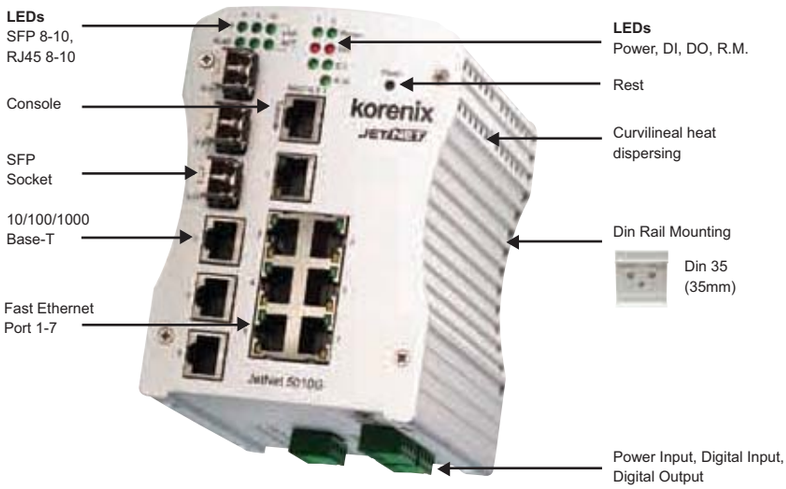


Robust, Curvilineal Mechanism Design

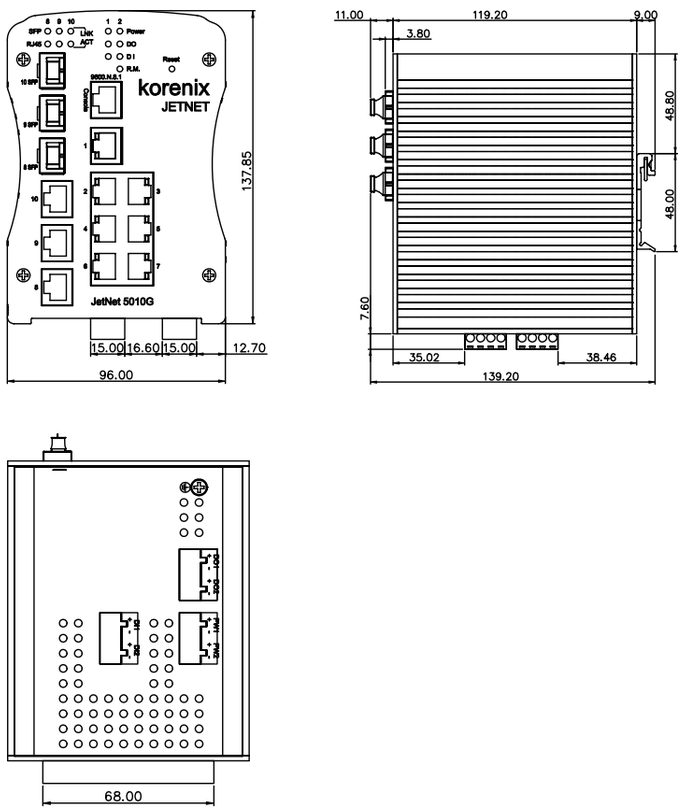
Korenix JetNet 5010G's outstanding outlook is rock-solid and fashionable with strong functionality. The special fan-less and curvilineal heating dispersing mechanical design adapts the thermodynamic technique to ventilate heat generated from Gigabit Ethernet module efficiently. The form factor with nice wavy shape on the sides would drive the heat flowing through the enclosure, it helps carrying the rising heat toward the top ventilate holes to let the chimney-effect flows become very effective. Using aluminum extrusion case with industrial quality, IP 31 class of protection, light weight, rigid shell and excellent thermal conductivity units can operate under harsh industrial environment reliably.



JetNet 5010G Appearance



Dimensions (Unit –mm)



Specification

Technology

Standard:
IEEE 802.3 10Base-T Ethernet
IEEE 802.3u 100Base-TX Fast Ethernet
IEEE 802.3ab 1000Base-TX
IEEE 802.3z Gigabit Ethernet Fiber
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)
IEEE802.3ad LACP
IEEE802.1X Port_based Network Access Control

Performance

Switch Technology:
Store and Forward Technology with 32Gbps Switch Fabric.
System Throughput: 14,880pps for 10M Ethernet, 148,800pps for 100M Fast Ethernet, 1,488,100 for Gigabit Ethernet
Transfer packet size: 64 bytes to 1522 bytes (with VLAN Tag)
MAC Address: 8K MAC
Packet Buffer: 1Mbits
Relay Alarm: Dry Relay output with 1A@24V ability

Management

Configuration: Cisco-Like CLI, JetView, Web, HTTPS, SSH; TFTP/Web Update for firmware and configuration 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, **SNMP v1, v2c, v3**, Traps and RMON1.
SNMP MIB: MIB-II, Bridge MIB, VLAN MIB, SNMP MIB, RMON and Private MIB
Port Trunk: Up to 5 Static Trunk and 802.3ad LACP
VLAN: IEEE802.1Q VLAN, GVRP. Up to 64 VLAN groups
Quality of Service: Four 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 V1/V2
Rate Control: Ingress filtering for Broadcast, Multicast, Unknown DA or All packets, and Egress filtering for All packets
NTP: Network Time Protocol to synchronize time from Internet
Embedded Watchdog: Embedded hardware watchdog timer to auto reset system when switch system failure
Port Mirroring: Online traffic monitoring on multiple selected ports
Port Security: Assign authorized MAC to specific port
IP Security: IP security to prevent unauthorized access
802.1x: Port_based Network Access Control
DHCP Server: Can assign 255 IP address, support IP and MAC binding
E-mail Warning: Automatic warning by pre-defined events
System Log: Supports both Local mode and Server mode

Network Redundancy

Rapid Spanning Tree Protocol: IEEE802.1D-2004 Rapid Spanning Tree Protocol. Compatible with Legacy STP and IEEE802.1w.
Rapid Super Ring(RSR): 2nd generation Korenix Ring Redundancy Technology. Failure recovery within 5ms.
Dual Homing II: Multiple uplink paths to upper switches
Multiple Ring: Couple or multiple Rapid Super Rings
Legacy Super Ring: Backward compatible in client mode
Any Ring: Inter-operate with other vendors' ring

Interface

Number of Ports: 10/100TX: 7 x RJ-45, Auto MDI/MDI-X, Auto Negotiation
10/100/1000TX: 3 x RJ-45, combo with SFP
Gigabit Fiber/100Base-FX: 3 x SFP with Hot Swappable
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)
1000 Base-T: 4-pair UTP/STP Cat. 5 cable (100m)
Diagnostic LED:
10/100 RJ-45: Link/Activity(Green), Full duplex/Collision (Yellow)
Gigabit Copper/SFP: Link/Activity(Green)
Unit: Power(Green), Digital Out(Red), Digital Input(Green), R.M.(Green)
RS232 Console: RJ-45 Connector, Pin3: TxD, Pin6: RxD, Pin5:GND
Power: 2 sets of power Inputs
Digital Input: 2 sets of Digital Input
Logic Low (0): 0-10VDC/Logic High(1): 11-30VDC
Alarm: 2 sets of Relay outputs for pre-defined events
Reset: Reset button is provided to restore default settings

Power Requirements

System Power: 12~48V/-12~-48VDC with Reverse Polarity Protection
Power Consumption: 11.5 Watts @ DC 48V

Mechanical

Installation: DIN-Rail mount or Wall Mount
Case: IP-31 protection, aluminum metal case
Dimension: 137mm(H) x 96mm (W) x 119mm (D)
Weight: 0.915kg with package

Environmental

Operating Temperature:-20 ~70°C
Operating Humidity: 5% ~ 95% (non-condensing)
Storage Temperature: -40 ~ 85°C
Hi-Pot: 1.2KV for ports and power

Regulatory Approvals

EMI: FCC Class A, CE/EN55022. Class A
EMS: EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11
Safety: UL, cUL, EN60950
Shock: IEC60068-2-27
Vibration: IEC60068-2-6
Free Fall: IEC60068-2-32
MTBF:249,683 Hours, MIL-HDBK-217F GB standard
Warranty: 5 years

Ordering Information

JetNet 5010G Industrial 10-Port Managed Ethernet Switch

Includes:

- JetNet 5010G(without SFP transceiver)
- Wall mounting plate
- Quick Installation Guide
- Documentation CD-ROM

Optional Accessories

SFPGSX:1000Base-SX multi-mode SFP transceiver,550m, -10~70°C

SFPGSX-w:1000Base-SX multi-mode SFP transceiver,550m, wide operating temperature, -40~85°C

SFPGSX2:1000Base-SX plus multi-mode SFP transceiver,2Km, -10~70°C

SFPGSX2-w:1000Base-SX plus multi-mode SFP transceiver, 2Km,wide operating temperature, -40~85°C

SFPGLX10:1000Base-LX single-mode SFP transceiver 10Km, -10~70°C

SFPGLX10-w:1000Base-LX single-mode SFP transceiver, 10Km, wide operating temperature, -40~85°C

SFPGLHX30:1000Base-LHX single-mode SFP transceiver,30Km, -10~70°C

SFPGLHX30-w:1000Base-LHX single-mode SFP transceiver, 30Km, wide operating temperature, -40~85°C

SFPGXD50:1000Base-XD single-mode SFP transceiver, 50Km, -10~70°C

SFPGXD50-w:1000Base-XD single-mode SFP transceiver, 50Km, wide operating temperature, -40~85°C

SFPGZX70:1000Base-ZX single-mode SFP transceiver, 70Km, -10~70°C

SFPGZX70-w:1000Base-ZX single-mode SFP transceiver, 70Km, wide operating temperature, -40~85°C