INDUSTRIAL GIGABIT ETHERNET SWITCH

Industrial 8GbE/TX, 4 GbE/SFP L3 Managed Switch

JetNet 7612G-4F

The JetNet 7612G-4F is an pure Gigabit industrial Ethernet Switch with 8 ports RJ-45, 4 ports Gigabit SFP socket for optical fiber network connection. It adopts high efficiency Ethernet MAC controller with 24Gbps Switch fabric bandwidth, 9K jumbo frame forwarding. The robust system design makes the JetNet 7612G-4F survive under harsh outdoor environment with extreme electric magnetic interference and the variation of environment temperature.

JetNet 7612G-4F also provides your network infrastructure with great performance and safety with network access control, and handle burst packet with smart buffer management for IP surveillance in real infrastructure.

EN50121-4   Heavy Industrial   Cyber Redundancy   Gigabit   Cyber Security   IEEE1588 PTP

Features

8 Gigabit Ethernet RJ-45 ports ,4 Gigabit SFP ports

1000Mbps Fiber Connection with DDM function

Non-Blocking, High Speed Network Switching Fabric

Network Redundancy – MSR (Multiple Super Ring),ITU-T G.8032 ERPS, RSTP, MSTP, Super Chain

Fully Device Management – SNMP v1/v2c/v3, RMON, Web UI, Telnet and Local Console

Friendly Device and Network Topology recovery utility – Korenix View, Korenix NMS

Advanced Cyber Network Security –MAC security, IEEE 802.1x Port Based access control , IEEE 802.1x Radius Server authentication, 802.1x MAB, Distributed Denial of Service (DDoS), IP Source Guard, Denial of ARP Inspection

Layer 2 Network Performance – IEEE802.1Q VLAN, Private VLAN, Trunk, Packet Filtering, DHCP Server/Client, Traffic Prioritize, Rate Control

 Layer 3 Network Routing Protocols – Static/Dynamic Route, VLAN Routing, Multicast Routing

Hardware Watchdog for System Auto-Recovery

High Level Electromagnetic interference immunity

Railway Track Side EN50121-4 compliance

High Operating Temperature -40~75°C

Redundant wide range power input- DC 10~36V

Specification

Technology	
Standard	IEEE 802.3 10 Base-T Ethernet IEEE 802.3u 100 Base-TX Fast Ethernet IEEE 802.3ab 1000 Base-T IEEE 802.3z Gigabit Ethernet Fiber IEEE 802.3x Flow Control and Back-pressure IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.1p Class of Service (CoS) IEEE 802.1Q VLAN and GVRP IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) IEEE 802.3ad Link Aggregation Protocol (LACP) IEEE 802.1x Port Based Network Access Protocol ITU-T G.8032 ERPS

Performance	
Switch Technology	Store and Forward Technology with Non-Blocking Switch Fabric
CPU performance	32 bits CPU with Hardware based Watch-dog timer with 10s reset timer
System Memory	32M bytes flash ROM, 256M bytes system RAM.
Transfer packet size	64 bytes to 9K bytes Jumbo Frame
MAC Table	16K
Packet Buffer	1.5MBytes shared memory for packet buffer with intelligent memory management unit for burst data traffic
Transfer performance	14,880pps for Ethernet and 148,800 for Fast Ethernet, 1488,100 for Gigabit Ethernet

Management	
Management Interface	Telnet with SSH, Web Browser with SSL, SNMP V1/V2c/V3 with SNMP Trap (up to 4 trap stations), RMON (Group 1,2,3,9) for in-band management. Local RS-232 connector for out-band management
Management Security	The maximum management session up to four, and support management Host IP secure feature to prevent unauthorized remote login
SNMP MIB	MIB-II, Bridge MIB, Ethernet-like-MIB, VLAN MIB, Private MIB
NMS	Windows based NMS (Network Management System) –Korenix NMS and Korenix View for device discovery and topology map auto construct
Network Time Protocol	NTP with daylight saving and localize time sync function
1588 PTP	IEEE 1588 Precision Time Protocol v1/v2 with Time Transparent
Management IP Security	Predefined Host IP address for management host login security
E-mail Warning	4 Receipt E-mail accounts with E-mail server authentication
System Event Log	2 Event log record modes- Local and remote Log Server with authentication

Network Performance	
Port Configuration & Statistic	Port link Speed, Link mode, flow control, port statistics
Port Trunk	IEEE 802.3ad Link Aggregation Control Protocol (LACP) and Static port trunk; trunk member up to 8 ports in one group, maximum 7 trunk groups
VLAN	IEEE 802.1Q Tag VLAN with 256 VLAN Entries and provides 2K GVRP entries; 3 VLAN link modes- Trunk mode, Hybrid mode and Link access mode
Private VLAN	The Private VLAN is special for group uplink access with independent port security. With the private VLAN function, each VLAN community is isolated and only exchange by high level device with primary VLAN community
IEEE 802.1Q QinQ	Supports Double VLAN tag for VLAN isolation and security
IEEE 802.1p	The Ethernet Switch MAC controller supports IEEE 802.1p Class of Service function; Per interface with 8 queues
IGMP Snooping	IGMP Snooping v1/v2 /v3 for multicast filtering and IGMP Query mode; also support unknown multicasting process forwarding policies- drop, flooding and forward to router port
Rate Control	Ingress/Egress filtering for broadcast, multicast, unknown DA or all packets
Port Mirroring	On-line traffic monitoring on multiple selected ports

DHCP	System supports DHCP Client function for dynamic IP address obtain from DHCP Server, and the Switch also support DHCP Server function with DHCP Relay Agent to forward DHCP request through specified forwarding path. The DHCP Server also offer port based DHCP Server function with predefined IP address or perform MAC&IP address binding function
IEEE 802.1x/ Port Security	Port based network access control, and authenticated by localize pre-defined MAC address or remote RADIUS Server
Cyber Network Redundancy	
Multiple Super Ring (MSR^{TM})	New generation Korenix Ring Redundancy Technology, Includes Rapid Super Ring, Rapid Dual Homing, TrunkRing^{TM}, MultiRing^{TM}, Super Chain^{TM}
Rapid Dual Homing (RDH^{TM})	Multiple uplink paths to one or multiple upper Switch, up to 256 Groups RDH^{TM} Peer protection
TrunkRing^{TM}	Integrate port aggregate function in ring path to get higher throughput ring architecture
MultiRing^{TM}	Supports redundant ring up to 7 Gigabit rings in one device
Super Chain	It is new ring technology with flexible and scalability, compatibility, and easy configurable. The ring includes 2 types of node Switch – Border Switch and Member Switch
Rapid Spanning Tree	IEEE 802.1D-2004 Rapid Spanning Tree Protocol; it compatible with Legacy Spanning Tree and IEEE 802.1w
Multiple Spanning Tree	IEEE 802.1s Multiple Spanning Tree, each MSTP instance can include one or more VLANs, and also supports multiple RSTP deployed in a VLAN or multiple VLANs
ITU-T G.8032 ERPS	Support ITU-T G.8032 ERPS V1 single ring topology, and ERPS v2 multiple rings with ladder topology
Cyber Security	The Cyber Security function includes- DHCP Snooping protection, Dynamic ARP inspect protection, IP Source Guard (IPSG), Distribute Denial-of-Service (DDoS), IEEE 802.1x MAB for non-IEEE 802.1x compliant device.
Industrial Protocol	Modbus/TCP, Ethernet/IP
Routing Protocols	
IP Routing	Supports Default Static and Dynamic Route
Virtual LAN Routing	Incorporate both of IEEE802.1Q Bridge and Routing Function
Routing Information Protocol	Hop-Based IP Routing with RIPv1 and RIPv2
OSPF	Link State based IP routing protocol support OSPFv1 and OSPFv2 (2nd stage)
IGMP	Multicast Group Management Protocol support IGMP v1,v2
Multicast Routing	128 IP Multicast Routing entries
VRRP	Short of Virtual Route Redundancy Protocol, Automatically Backup Routing route to specified router
Interface	
Enclosure Port	10/100/1000Mbps Gigabit Ethernet port (#1~#10): 8 x RJ-45 Connectors 100/1000Mbps Gigabit Ethernet SFP port (#11~#14): SFP Socket with 1000Mbps Fiber Transceiver Auto Detection, and with Digital Diagnostic Monitoring (DDM) for optical fiber quality inspection Power input: 4-Pin Removable Terminal Block Connector Digital Input, Output: 4-Pin Removable Terminal Block Connector RS-232 Console: RJ-45, Baud Rate:115200bps, N,8,1 Digital Input: Semi Digital Input (Low: 0~10V, High:11~30V) Digital Output: Dry Relay Output with Normal Open operating mode with DC 24V/0.5A contact capability
Cables	100Base-TX: 2 pairs STP Cat.5e/Cat.6 cable, EIA/TIA-568B 100-ohm (length:100Meters) 1000Base-T: 4 pairs STP Cat. 5e/Cat.6 cable, EIA/TIA-568B 100-ohm (length:100Meters) Power Cable: Recommended uses 18AWG electrical power cable with UL certification
Diagnostic Indicator (LED)	1000Mbps RJ-45 port: Link/Acrivity (Green on, Green Blinking),1000M (Amber on) 1000Mbps SFP: Link/Activity (Green on, Green Blinking), 1000Mbps (Amber on) Power: Power on (Green on) Sys: Ready (Green on) R.S: Green on (Ring Normal)/Blinking (wrong ring port connective), Amber on (Ring abnormal)/Blinking (ring port failed) D.I.: Digital Input (Green on) D.O.: Dry Relay Output (Red on)
Power Requirement	
System Power	Redundant Power Input: DC 24V(10~36VDC). With power protection.

Mechanical	
Installation	EN50022 DIN Rail Mount
Dimensions	84 mm (W) x 160 mm (H) x 136 mm (D)-with mounting ears 84 mm (W) x 160 mm (H) x 127 mm (D)-without mounting ears
Material Housing	Steel Metal with Aluminum Housing
Ingress Protection	IP-31
Environmental	
Operating temperature	-40~75°C
Operating humidity	0%~95%, non-condensing
Storage Temperature	-40~85°C, 0%~95% humidity
Hi-Pot	Power- Chassis GND/Housing: AC 1KV/DC 1.4KV
Regulatory Approvals	
Railway Application	Rolling Stock Track Side EN50121-4
Safty	UL IEC 62368-1
EMC	EMI: IEC/EN61000-6-2, Compliance with EN50121-1/-4 , CE class A, FCC sub part-15 class-A EMS: IEC/EN61000-6-4, Compliance with EN50121-1/-4, EN61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-9
Vibration	Compliance with EN60068-2-6
Shock	Compliance with EN60068-2-27
Free Fall	Compliance with EN60068-2-32 (With package)

Ordering Information

JetNet 7612G-4F Industrial 8GbE/TX, 4 GbE/SFP Managed Switch, -40~75°C

Each Unit include:

   JetNet 7612G-4F x1

   Quick Installation Guide