KIEN5000

Overview

KIEN5000 8-port Web-Managed Industrial rail Switch contains four redundant TP ports which can be connected into redundant ring network, and four common TP ports. Because of its plug-and-play feature, it is started up shortly. KIEN5000 offers 24V redundant power inputs. With a web-based configuration interface, KIEN5000 ensures an easy installation and management of your switches. The configurable IP address also makes it easy to do settings or changes through any user interface.

Features

High-performance Industrial Ethernet Switch

1.10/100Base-T/TX Ethernet ports, adaptive, full/half duplex

2.High speed redundant TP cable ring with recovery time < 300ms

3.Supports VLAN to control broadcasting and flow, port trunking, port mirroring, prioritization and IGMP.

4.Alarm relay output power supply and port link.

5.Broadcast storm control

Powerful Management Function

1.You can log in the management system through the IP address in the WEB browser.

2.The management of control station can be logged in by Telnet or super end.

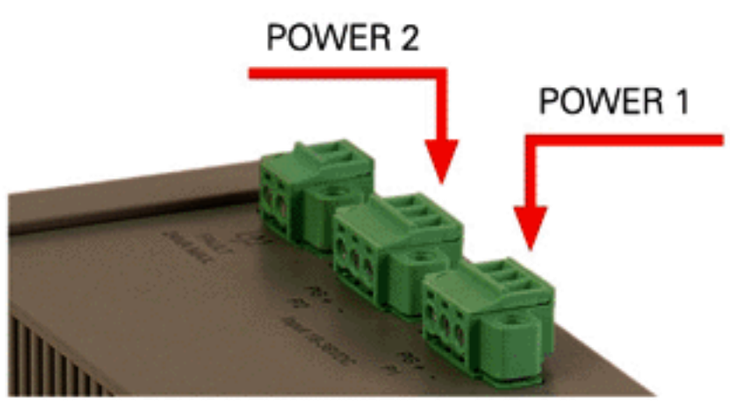
3.Through management, you can make queries and settings for VLAN, port trunking, port mirroring, prioritization and IGMP.

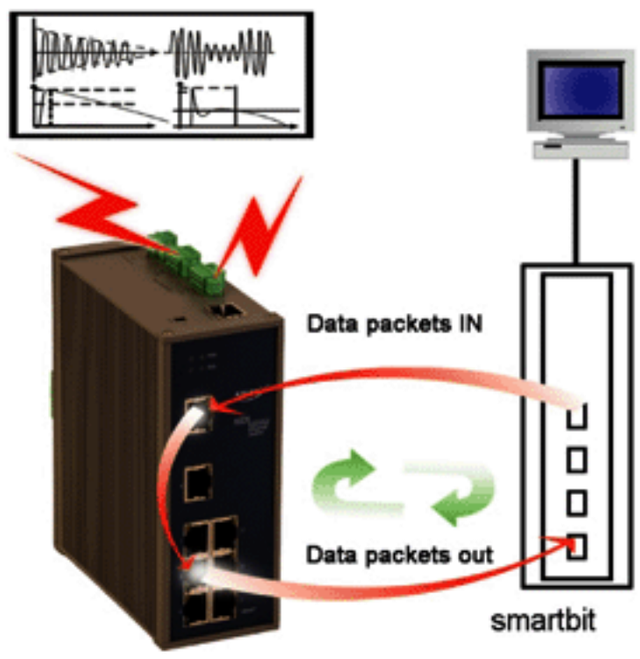
Industrial Power

1.Industrial power input of DC24V（DC18V～36V）.

2.Reliable protection for EMC and against over-current/over-voltage.

3.Redundant power input.



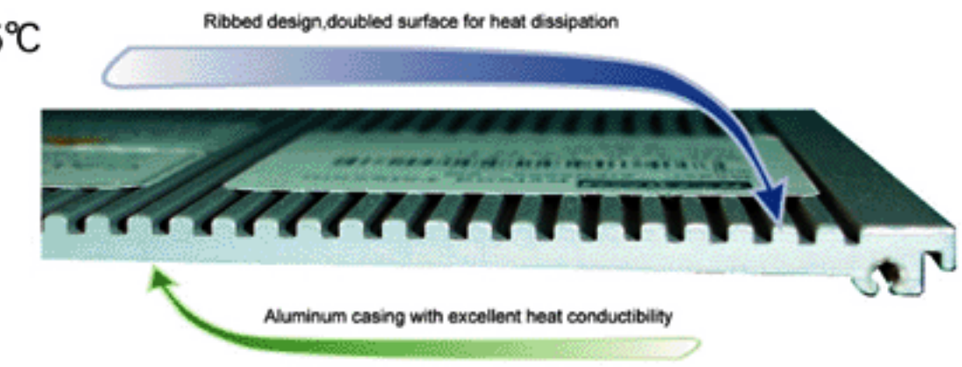


Rugged Design

1.Ribbed heat-removal design(fanless); operation at -35℃ to +75℃

2.Solid IP40 housing

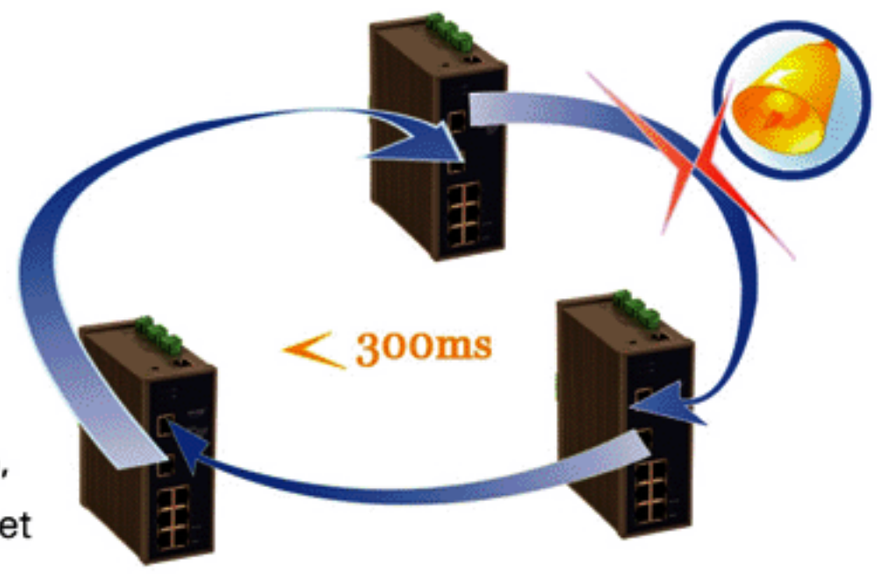
3.Easy DIN-Rail mounting or optional wall-mounting



Main Functions

100Mbit/s Redundancy (TP Cable)

KIEN5000 offers 4 redundant Ethernet ports to be connected into redundant ring network through TP cable. The system will be able to re-configure within 300ms once disconnection occurs.



Configuration and Management

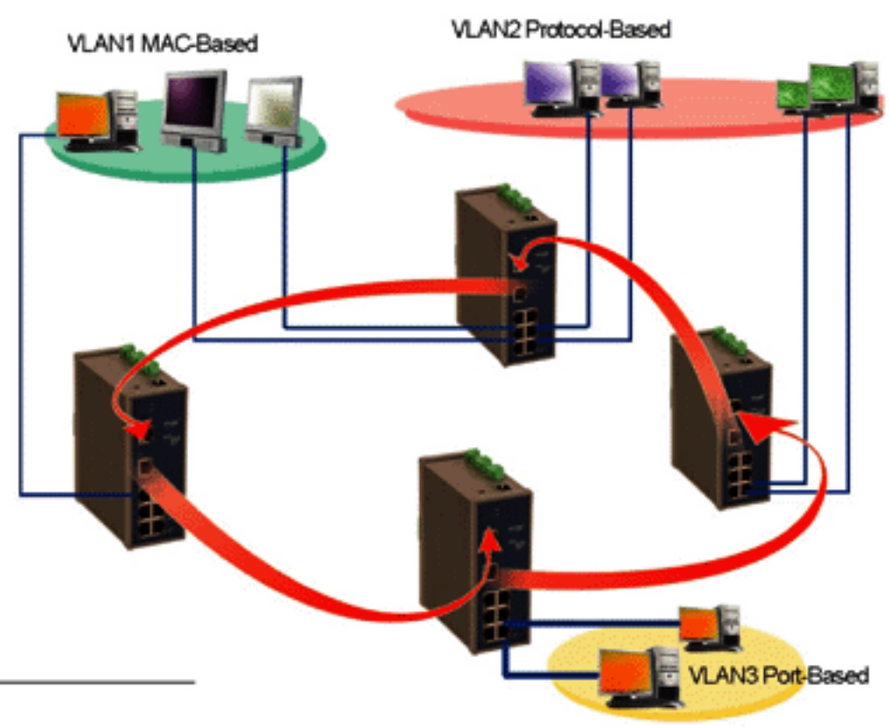
KIEN5000 offers 3 options of login way for users to make configuration, control and management including RS232 serial port (CONSOLE), Telnet and WEB browser.

LED Indicator

The LEDs indicate the port status correctly including transmission rate, link status and system status.

VLAN

VLAN will divide one network into multiple logical subnets. Data packets can not be transmitted between different VLANs so as to control the broadcast domain and segment flow and improve the reliability, security and manageability. KIEN5000 supports IEEE802.1q. It can be divided into up to 4094 VLANs based on ports. The VLAN division can be finished by control station or WEB station easily.



802.1p Prioritization

KIEN5000 conforms to 802.1p, which is used the most widely in LAN environment. The end-users of KIEN5000 can make use of this function to configure the port-based prioritization when 802.1p is not supported at user' s end and different priority is necessary for different ports' services. Only the data package without Prioritization in the Packet in the ports can be affected by this function. Each port of KIEN5000 supports 2 levels (high, low) prioritization.

Layer-2 Switching

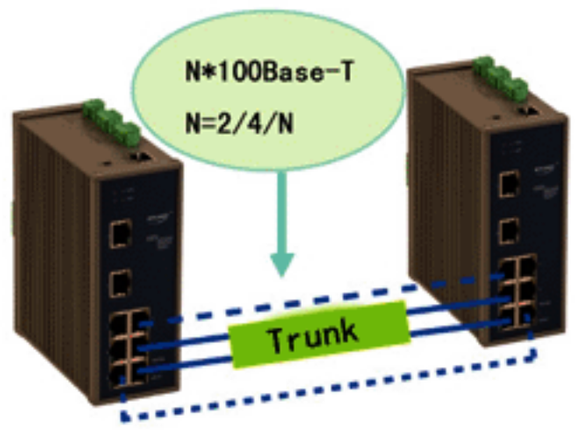
Switches work in two ways: Cut-Through and Store-and-Forward. In Cut-Through, a data packet is immediately relayed further after detecting the target address; in Store-and-Forward, a data packet is first read-in completely and checked for errors before the switch relays the same. KIEN5000 employs Store-and-Forward that is a switching mode widely used.

Multicasting (IGMP)

IGMP is Internet Group Multicast Protocol. KIEN5000 offers IGMP monitor and query functions. Data packets can be transmit–ted to multi host computers to prevent overloading. This solves the problems of bandwidth occupied when multicasting.

Port Trunking

KIEN5000 provides port trunking functions to aggregate multi ports into one logical port with the same transmission rate, duplex mode and VLAN ID. Up to 6 ports trunking can finished in one single switch. Thus, network flow congestion is relieved and tolerance ability is improved.



Port Mirroring

This function enables the copying of data at one port to another port in order to monitor the transmitted data real time.

Setting for Working Mode of Port

KIEN5000 is able to configure the working mode of all ports through management: full/half duplex, auto–sensing, enforced full/half duplex, enforced 10M/100M etc.

STP (Spanning Tree Protocol)

KIEN5000 supports Spanning Tree Protocol of IEEE802.1d. STP enables the switch of double paths to make use of the paths without circulation. It determines the optimum path and blocks others in order to prevent circulation of data packets.

Broadcast Storm Control

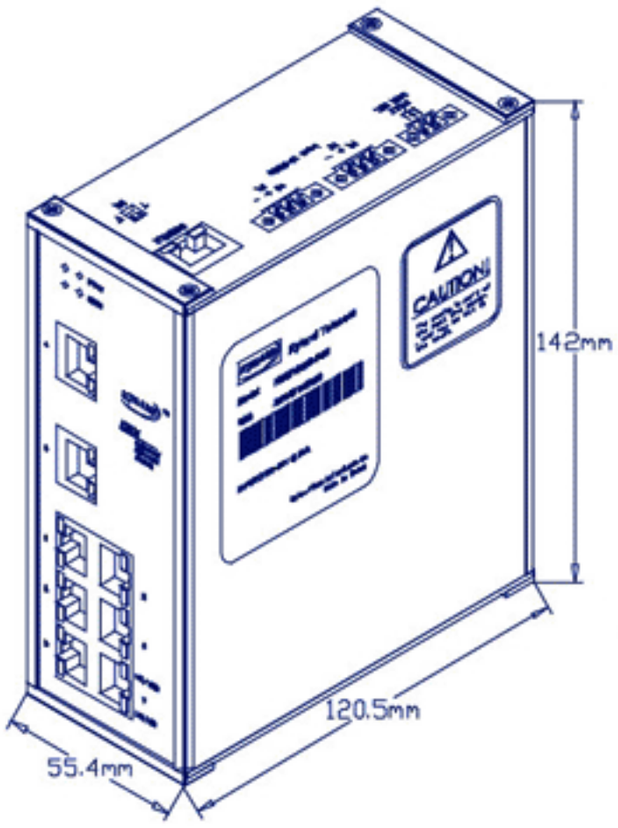
When over broadcast data packets are sent in the network and occupy much space, the time of transmission will be prolonged; this is the so–called network storm. KIEN5000 supports broadcast data packets, multicast data packets and broadcast storm control. The data packets out of the limited time will be abandoned.

Static MAC Address Binding

For KIEN5000, ports and static MAC address can be bind. When the end devices' MAC address is not accordant with binding address, the switch will close the port in order to prevent the unallowed visit from the end.

Alarming

KIEN5000 comes with alarm functions for power supply and port link. Any power of KIEN5000 fails, alarm signal will be sent out by alarm terminal. The alarm of port link can be set through management. The terminal is open when there is no alarm and is closed when alarm occurs.



Dimensions: 55.4mm x 142mm x 120.5mm(W x H x D)

Parameters

Product Description

Model：KIEN5000

Description：Managed Industrial ETHERNET Rail Switch, store and forward switching mode, Ethernet (10 Mbit/s) and Fast-Ethernet (100 Mbit/s)

Port Type and Quantity：

4 x 100Mbit/s, TP cable, redundant, Auto-Negotiation

4 x 10/100Base-T/TX, TP cable, RJ45 socket（shielded）, Auto-Negotiation

More Interface

Power Terminal：2 x DC power terminal, 3-core

Alarm Terminal：1 x alarm output terminal, 2-core

RS232 interface：1 x RJ45 socket

Network size – length of cable

Twisted pair (TP)：100m

Network size – cascadibility

Line – / star topology：Any

Ring structure (DT-Ring)：50 switches (recovery time < 300ms)

Power requirements

Power input：18V – 36V redundant DC power input

Power consumption：<8W

Performance

Transfer Rate：148810pps

MAC Address Table Size：1K

Service

Diagnostics：LEDs (power, link status, port rate, management status), fault relais (24VDC/1A)

Configuration：Web page, Telnet, Console

Security：Port security (MAC based and IP based)

Other services：Prioritization (IEEE 802.1D/p), VLAN (802.1Q), multicast (IGMP snooping/querier, GMRP), broadcastlimite, flow control (IEEE802.3x)

Redundancy

Redundancy functions：DT-Ring (ring structure), STP (spanning tree protocol), redundant 24V power supply

Ambient conditions

Operating temperature：-35℃ to +75℃

Storage/transport temperature：-45℃ to +85℃

Relative humidity (non-condensing)：10% to 95%

MTBF：10 years

Mechanical construction

Dimensions (W x H x D)：55.4mm x 142mm x 120.5mm

Mounting：DIN-Rail or Wall mounting

Protection class：IP40

EMC interference immunity

EN 61000-4-2 electrostatic discharge (ESD)：±+4 kV contact discharge, +8 kV air discharge

EN 61000-4-3 electromagnetic field：10 V/m (80 – 1000 MHz)

EN 61000-4-4 fast transients (burst)：±2 KV power line, ±1 kV data line

EN 61000-4-5 surge voltage：Power line: ±2 kV (line/earth), ±1 kV (line/line), ±1 kV data line

EN 61000-4-6 conducted immunity：3 V (10 kHz – 150 kHz), 10 V (150 kHz – 80 MHz)

EMC emitted immunity

FCC CFR47 Part 15：FCC CFR47 Part 15 Class A

EN 55022：EN 55022 Class A

Approvals

Certificate：FCC, CE

Order Information

Model	Description
KIEN5000-8T	4 x 100Mbit/s, TP cable, redundant, Auto-Negotiation 4 x 10/100Base-T/TX, TP cable, shielded RJ45 socket, Auto-Negotiation