



## KIEN5000

8 Port Managed  
Industrial Ethernet Switch

CE, FCC, UL, RoHS

### Overview

The KIEN5000 8-port Managed DIN-Rail Industrial Ethernet Switch contains four redundant TP ports which can be connected into a redundant ring network, and four common TP ports. Because of its plug-and-play feature, it can be started up quickly. 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

- 10/100Base-T/TX Ethernet ports, adaptive, full/half duplex
- DT-Ring, recovery time <100ms
- DT-Ring+, RSTP ring network redundant protocols
- Support QoS, SNMP, MIB V1/V2/V3, RMON
- Supports VLAN to control broadcasting and flow, port trunking, port mirroring, prioritization and IGMP.
- Alarm relay output for power supply and portlink.
- Store-and-forward switching mode conforms to IEEE802.3/802.U/802.3X
- EMC industrial level 4, complies with IEC61850 standard.
- Dual redundant 24VDC power supply (DC 18V~36V)
- Ribbed Aluminum housing for heat dissipation (fanless); operation at -40 to 75°C(-40 to 167°F)
- IP40 protection class
- Easy DIN-Rail mounting or optional wall-mounting

### Functions

#### 100Mbit/s Redundancy (TP Cable)

KIEN5000 offers 4 redundant Ethernet ports to be connected into a 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 login options for users to do 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 section 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 the 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 the 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 of prioritization (high and low).

#### Layer-2 Switching

Switches work in two ways: Cut-Through and Store-and-Forward. In Cut-Through, a data packet is immediately relayed 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—a switching mode widely used.

#### Multicasting (IGMP)

IGMP stands for Internet Group Multicast Protocol. KIEN5000 offers IGMP monitor and query functions. Data packets can be transmitted to multiple 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 of trunking can be 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 in 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. Out-of-date data packets will be abandoned.

### Static MAC Address Binding

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

### Alarming

KIEN5000 comes with alarm functions for power supply and port link. In the event of a power failure in KIEN5000, the alarm signal will be sent out by the 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 the alarm sounds.

## Technical Specifications

### Standard

IEEE802.3  
IEEE802.3U  
IEEE802.3X  
Store and forward switching mode

### Network

Ring, chain and star network topology.

### Service

Diagnostics: LEDs (power, link status, port rate, management status), fault relays (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), broadcast limit, flow control (IEEE802.3x)

### Interface

4 x 100Mbit/s, TP cable, redundant, adapting  
4 x 10/100Base-T/TX, TP cable, RJ45 socket (shielded), adapting

### Power Requirements

Power input: 24VDC (18-36VDC) dual redundant, 110VDC, 220VAC  
Power consumption: <6W

### Physical Characteristics

Casing: IP40 protection  
Ribbed Aluminum housing fanless design  
Dimensions(WxHxD): 55.4x142x120.5 mm (2.18x5.59x4.74 in.)  
Weight: 1000g (2.205 pounds)  
Installation: DIN-Rail or wall mounting

### Environmental Limits

Operating Temperature: -40 to 75°C (-40 to 167°F)  
Storage Temperature: -45 to 85°C (-49 to 185°F)  
Ambient Relative Humidity: 0 to 95% (non-condensing)

### Approvals

EMC interference immunity:  
IEC61000-4-2(ESD): ±4KV contact discharge, ±15KV air discharge  
IEC61000-4-3(RS): 10V/M (80-1000MHz)  
IEC61000-4-4(EFT): ±4KV power line, ±4KV data line  
IEC61000-4-5(Surge): ±4KV(line/earth), ±2KV (line/line) power line, ±2KV data line  
IEC61000-4-6(CS): 3V(10KHZ~150KHZ), 10V(150KHZ~80KHZ)

### EMC emitted immunity:

FCC CFR47 Part15: FCC CFR47 Part 15 Class A  
EN55022: EN55022 Class A  
UL60950, CE, FCC, UL, ROHS

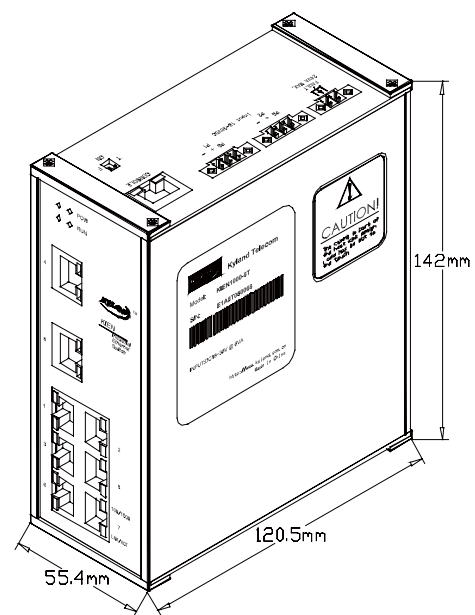
### MTBF

35 years

### Warranty

5 Years

## Mechanical Drawing



## Ordering Information

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