

KIEN6000T

Overview

KIEN6000T 8-port Managed Industrial Rail Switch is based on networking topology and comes with a special management function, KyvisionV2.0 management, which is developed by Kyland. With the terminal management software, KIEN6000T can realize the integrated management for the whole network. KIEN6000T also has 24V redundant power inputs. KIEN6000T offers two fiber ports, and six TP ports.



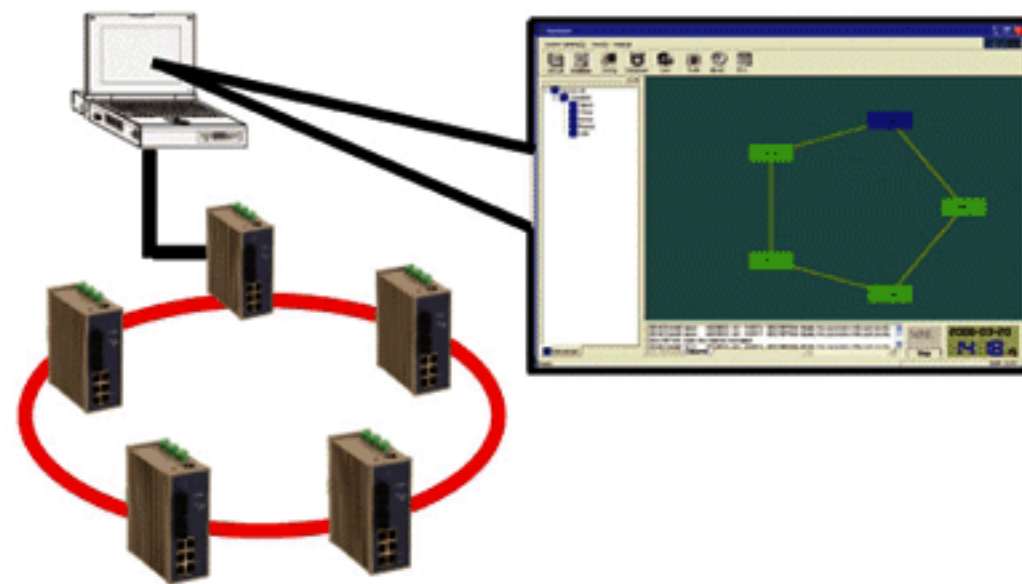
Features

High-performance Industrial Ethernet Switch

1. 10/100Base-T/TX Ethernet ports, adaptive, full/half duplex, auto MDI/MDI-X connection
2. 100Base-FX fiber ports, single mode/multimode, full duplex
3. High speed redundant ring with recovery time < 300ms
4. Supports VLAN to control broadcasting domain and segment flow.
5. Alarm relay output power supply and port link.
6. Broadcast storm control

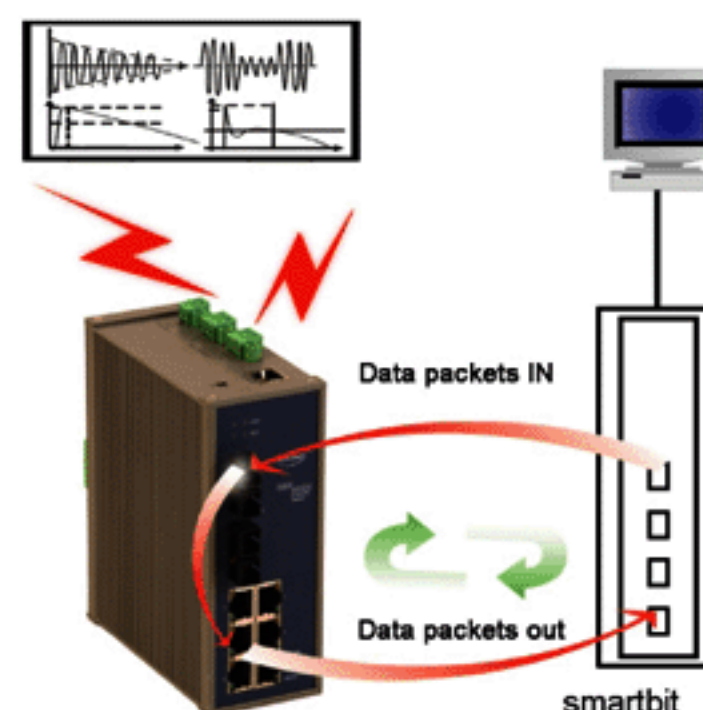
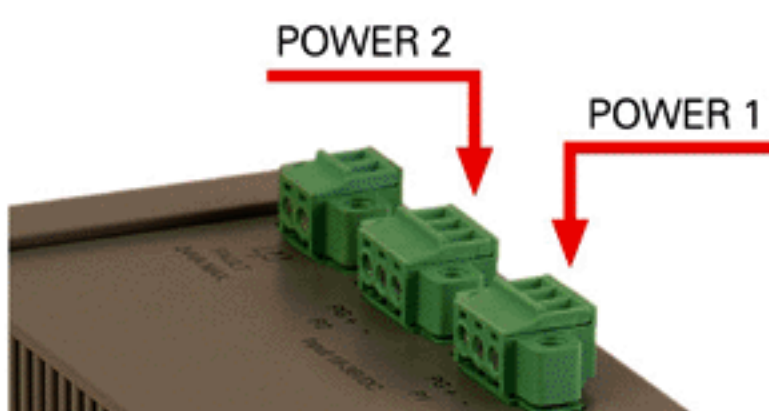
Powerful Management Function

1. Integral management platform for the entire network based on RS232 standard. The management system is immune against the attack of virus or hacker since the management channel is independent to service channel.
2. Special-designed management software for upper PC realizes the auto-configuration of IP address for networking devices and auto-scan/spanning of network topology.
3. Individual naming for each devices in the network.
4. Setting and query of VLAN.
5. Setting and query for alarm of power and ports link.
6. Setting and query for port working mode, prioritization, and rate



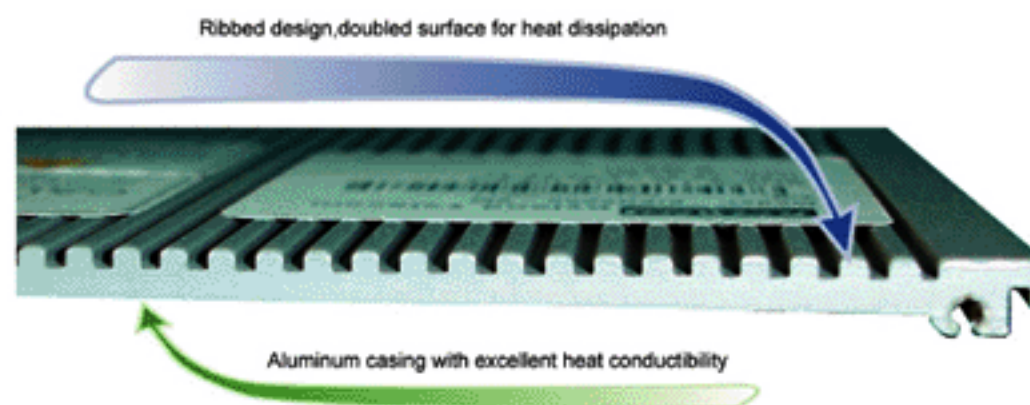
Industrial Power

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

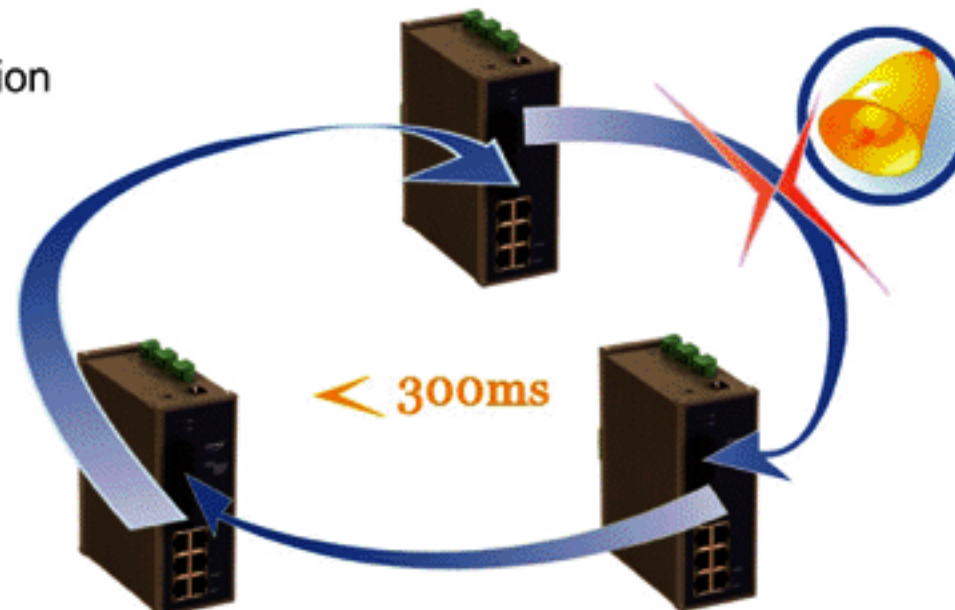
- 1. Ribbed heat-removal design (fanless); operation at -35°C to $+75^{\circ}\text{C}$
- 2. Solid IP40 housing
- 3. Easy DIN-Rail mounting or optional wall-mounting



Main Functions

100Mbit/s Optical Fiber Redundancy

It is critical for network to re-configure immediately once disconnection occurs in the industrial fields. Accordingly, KIE6000T comes with DT-Ring, which is developed by KYLAND, and offers 2 redundant fiber ports to realize the redundant ring network. The system will be able to re-configure within 300ms after cable fault.



Configuration and Management

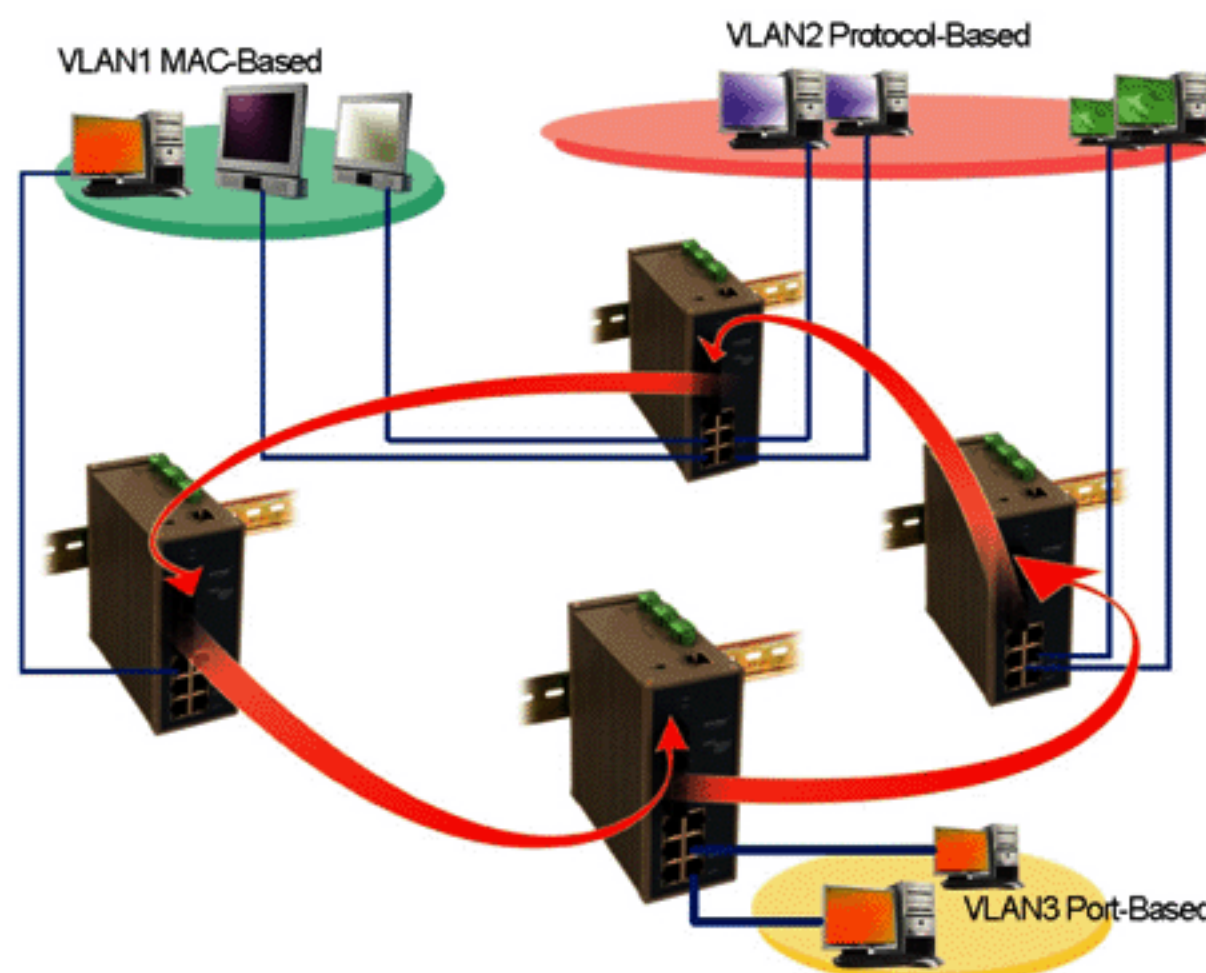
At KIE6000T, the settings, queries and management can be realized for the whole switch or network system through CONSOLE interface.

LED Indicator

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

VLAN

The network can be divided into several VLANs according to ports, through which the users in one VLAN can communicate each other. The VLAN of KIE6000T conforms to IEEE802.1Q and can realize the communication within one VLAN of different switches. KIE6000T supports up to sixteen VLANs based on IEEE802.1Q.



802.1p Prioritization

KIEN6000T conforms to 802.1p, which is used the most widely in LAN environment. The end-users of KIEN6000T 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 KIEN6000T supports 2 levels (high, low) prioritization.

Layer-2 Switching

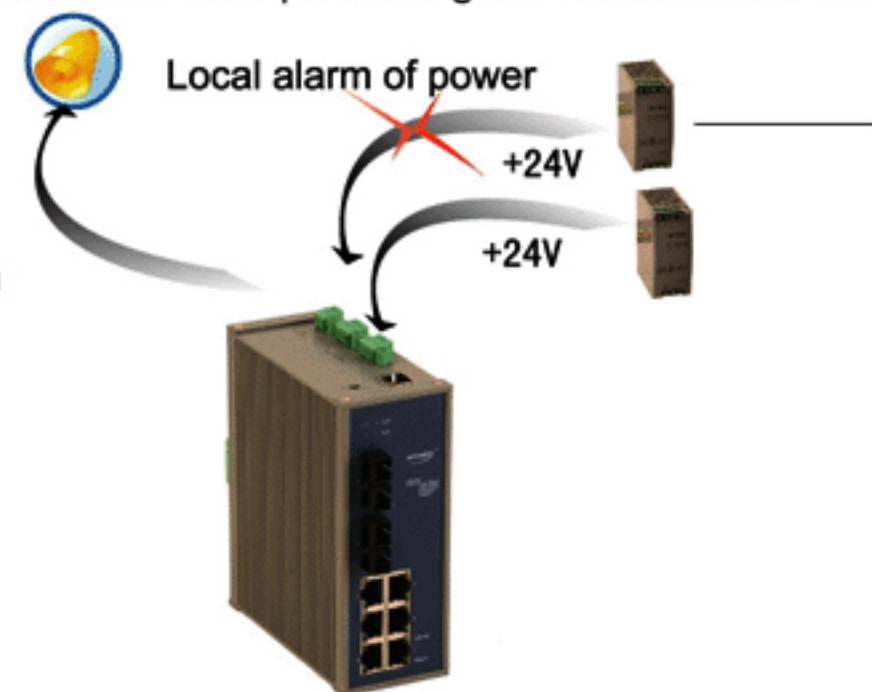
Switches work in two ways: Cut-Through and Store-and-Forward. In Cut-Through, a data packet is immediately relayed further after detecting the target address; in Store-and-Forward, a data packet is first read-in completely and checked for errors before the switch relays the same. KIEN6000T employs Store-and-Forward that is a switching mode widely used.

Broadcast Storm Control

Broadcast storm is the ceaseless transfer of broadcast frame or multicast frame in bridge, which is caused by loop and will waste much bandwidth. The purpose of broadcast storm control is to optimize the performance of switch network. KIEN6000T supports the broadcast storm based on percentage. With the control percentage, the broadcast flow of KIEN6000T will be monitored and controlled effectively. The switch will filter out the over flow and ensure the flow percentage is normal once the bandwidth of broadcast flow exceed the limit.

Alarming

KIEN6000T offers the alarming functions for power, port link and network. Through management software, all the alarming functions can be configured functionally. The alarming information is shown on management interface.



Setting for Working Mode of Port

KIEN6000T is able to set the working mode of all ports through management: full/half duplex, auto-sensing, enforced full/half duplex, enforced 10M/100M etc.



Setting for Port Rate

KIEN6000T is able to set the rate of all ports through management as any integer multiple of 32kbps.

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

Parameters

Product Description

Model: KIEN6000T

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

Port Type and Quantity:

2 x 100Mbit/s, optical fiber, redundant

6 x 10/100Base-T/TX, TP cable, RJ45 Socket (shielded), auto-negotiation, auto-polarity

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

Multimode fiber: Distance: 2–5km, Wavelength: 1310nm, Optical power: >–20dbm

Single mode fiber: Distance: 40km(60km, 80km for special requirement)

Wavelength: 1310/1550nm, Optical power: >–13dbm

Network size – cascability

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: <6W

Performance

Transfer Rate: 148810pps

MAC Address Table Size: 1K

Service

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

Configuration: KyvisionV2.0

Security: Port security (MAC based and IP based)

Other services: Prioritization (IEEE 802.1D/p), VLAN (802.1Q), broadcastlimiter, flow control (IEEE802.3x)

Redundancy

Redundancy functions: DT-Ring (ring structure), redundant power input

Ambient conditions

Operating temperature: –35°C to +75°C

Storage/transport temperature: –45°C to +85°C

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
KIEN6000T–2S	2 x 100Base–FX, single mode, redundant
KIEN6000T–2M	2 x 100Base–FX, multimode, redundant