

# KIEN1005A

## 5 Port Unmanaged Din-Rail Industrial Ethernet Switch



- Green Ethernet solution with ultra low power consumption design
- As low as 2.16 watts full load power consumption
- 4 10/100Base-TX ports and 1 Fast Ethernet fiber/RJ45 optional port
- Both standard and wide operating temperature
- EMC performance reaches industrial level 4
- IP40 protection class
- UL508 , Class 1 Div 2 , CE, FCC certificates



### Overview

The KIEN1005A series are Kyland new ultra low power consumption Green Ethernet series, its full load power consumption is as low as 2.16 watts. The KIEN1005A switches are with a wide operating temperature range from -40 to 85°C. All models are with IP40 protection class and meet EMC industrial level 4 requirements.

KIEN1005A series support IEEE 802.3i and IEEE802.3u with 10/100M full/half-duplex, MDI/MDI-X auto-sensing. The KIEN1005A switches provide 24DCW (18-72VDC) and 220AC/DCW(85-264VAC/77-300VDC) power supply. These switches are specially designed for harsh industrial environments certified by UL508 and UL Class 1 Div 2 certifications.

KIEN1005A-SMS-EM, a newly added version of KIEN1005A, is a "green", embedded industrial Ethernet module with low-power consumption (1.2 watts full load power consumption). It is applicable to wind power, subway PIS, power SCADA, sewage treatment, metallurgy, intelligent transportation, rail transit, and many other industries. KIEN1005A-SMS-EM Embedded Ethernet Switching Module can be directly installed in the target device. KIEN1005A-SMS-EM provides five 10/100Base-T(X) ports.

### Technical Specifications

#### Standard

IEEE 802.3i  
IEEE 802.3u  
IEEE802.3x

#### Switch Properties

MAC Table: 2K  
Packet Buffer: 1Mbit  
Packet Forwarding Rate: 0.8Mpps  
Switching Delay: <5μs

#### Interface

Fast Ethernet Fiber Ports: max 1 100Base-FX, SM/MM port, FC/SC/ST connector  
Fast Ethernet RJ45 Ports: max 5 10/100Base-TX RJ45 ports

#### LED

LEDs on Front Panel:  
Power LED: PWR (KIEN1005A-E-ST)  
PWR1, PWR2 (other models)  
Interface LED: Link/ACT, Speed (RJ45 port)

#### Transmission Distance

Twisted Pair:  
100m (Standard CAT5, CAT5e network cable)  
Multi Mode Fiber:  
1310nm, 5km (100M)  
Single Mode Fiber:  
1310nm, 40km/60km (100M)  
1550nm, 60km/80km (100M)

**Power Requirements**

## Power Input:

KIEN1005A-SMS-EM-5T: Internal power supply 5DC(4.5-5.5VDC), External power supply 7DC(6.5-7.5VDC)

KIEN1005A other models: 24DCW(18-72VDC), 220AC/DCW (85-264VAC/77-300VDC), single power input

## Power Terminal:

KIEN1005A-SMS-EM-5T: J.5T XH-Connector-pitch 2.5mm (internal power), Phoenix MSTB 2.5/2-GF-5.08-(connector 7v power supply) (external power)

KIEN1005A other models: 5-pin 5.08mm-spacing plug-in terminal block

## Power Consumption:

KIEN1005A-1S/M-4T: 2.64W (full load)

KIEN1005A-5T: 2.16W (full load)

KIEN1005A-SMS-EM-5T: 1.2W (full load)

Overload Protection: Support

Reverse Connection Protection: Support

Redundancy Protection: Support

**Physical Characteristics**

Housing: Metal, fanless

Protection Class: IP40

KIEN1005A-SMS-EM-5T Dimensions (LxWxH):

120x70x15 mm (4.72x2.76x0.59 inch)

KIEN1005A Dimensions (WxHxD):

30x115x91.5 mm (1.18x4.53x3.60 in.)

Weight:

KIEN1005A-SMS-EM-5T: 0.075kg (0.165 pound)

KIEN1005A: 0.46kg (1.014 pound)

Mounting: DIN-Rail or Panel mounting

**Environmental Limits**

## Operating Temperature:

0 to 60°C (32 to 140°F) (KIEN1005A-SMS-EM-5T)

-40 to 85°C (-40 to 185°F) (other models)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

**MTBF**

454,730 hrs

**Warranty**

5 years

**Approvals**

UL508 , Class 1 Div 2 , CE, FCC

**Industrial Standard**

EMI:

FCC CFR47 Part 15, EN55022/CISPR22, Class A

EMS:

IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air)

IEC61000-4-3 (RS): 10V/m (80MHz-2GHz)

IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV

IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV

IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz)

IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)

Machinery:

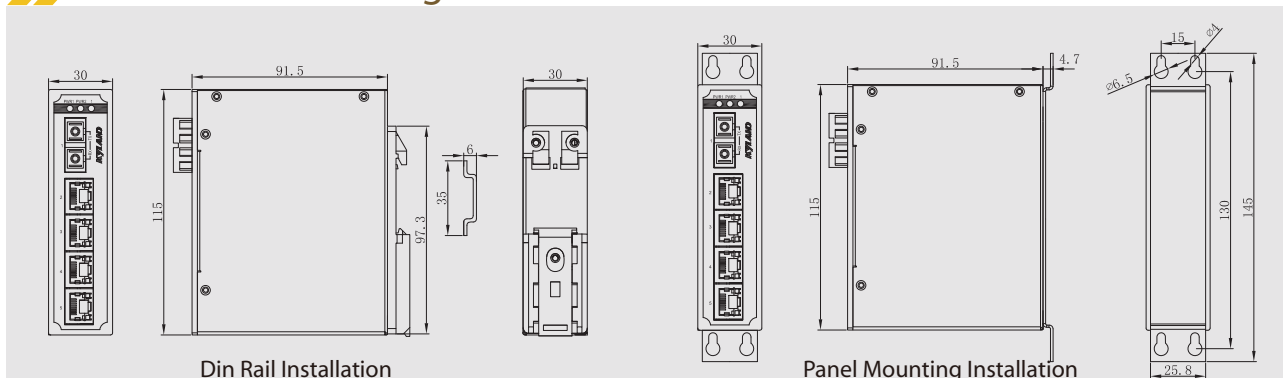
IEC60068-2-6 (Vibration)

IEC60068-2-27 (Shock)

IEC60068-2-32 (Free Fall)

Industry: IEC61000-6-2

Railway: EN50155, EN50121-4

**Mechanical Drawing****Ordering Information**

KIEN1005A - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
Ports Distance Connector PS

**Ports**

5T = 5 10/100Base-TX RJ45 ports, -40 to 85°C operating temperature

1M-4T = 1 100Base-FX multi mode fiber port, 4 10/100Base-TX RJ45 ports, -40 to 85°C operating temperature

1S-4T = 1 100Base-FX single mode fiber port, 4 10/100Base-TX RJ45 ports, -40 to 85°C operating temperature

SMS-EM-5T = Embedded board with 5 10/100Base-TX RJ45 ports, 0 to 60°C operating temperature

**Distance: Fiber Distance**

1310-5 = 1310nm, 5km

1310-40 = 1310nm, 40km

1310-60 = 1310nm, 60km

1550-80 = 1550nm, 80km

**Connector: Fiber Connector**

SC = SC Connector

ST = ST Connector

FC = FC Connector

**PS: Power Supply**

5DC-7DC = Internal power supply 5DC(4.5-5.5VDC), External power supply 7DC(6.5-7.5VDC) (Only for KIEN1005A-SMS-EM-5T)

24DCW = 18-72VDC, dual redundant power inputs

220AC/DCW = 85-264VAC/77-300VDC, single power input