

# EKI-7708E-4FP

# EKI-7708E-4FPI

## 4FE+4G SFP Port Managed Redundant Industrial PoE Switch



### Features

- 4 x Fast Ethernet ports + 4 x SFP ports
- Support 4 x IEEE 802.3at/af PoE ports for PD demands
- Redundancy: X-Ring Pro (ultra-high-speed recovery time, <20 ms), RSTP/STP (802.1w/1D)
- IXM function for fast deployment
- Security Pack with 802.1X, ACL, RADIUS, TACACS+, MAB Authentication, SNMPv3, HTTPS, SSH, and SFTP
- Management: SNMP v1/v2c/v3, WEB, Telnet, standard MIB, private MIB
- Supports NMS for easy and visualized to monitor and manage network remotely
- Dual 48 V<sub>DC</sub> power input and 1 x relay output

### Introduction

The EKI-7708E-4FP/4FPI provide 4 fast Ethernet IEEE 802.3 at/af PoE ports and 4 SFP (mini-GBIC) ports. They can provide up to 30 W per port to fulfill high-power-consumption power device requirements. They are embedded with Advantech's IXM function, which can benefit users with fast deployment and can save considerably on engineering time and costs. The EKI-7708E series also support NMS to help IT managers with networking maintenance and failure prevention. Finally, they are equipped with X-Ring Pro, which can achieve ultra-high-speed recovery times of <20 ms, thus ensuring network stability. The EKI-7708E-4FPI in particular also features a wide operating temperature range of -40 ~ 75°C and NEMA TS2 rating, making it ideal for use in traffic applications. Finally, the EKI-7708E-4FP/4FPI meet the EN50121-4 European railway standard requirements for emissions and railway platform and trackside deployment.

### Specifications

#### Interfaces / Communications

- I/O Port**
  - 4 x 10/100BASE-T/TX RJ-45
  - 4 x SFP (mini-GBIC) port
  - Auto-Negotiation, Full/Half Duplex Mode
  - Auto MDI/MDI-X Connection
- Standards**
  - IEEE 802.3 for 10Base-T
  - IEEE 802.3u for 100Base-T(X)/FX
  - IEEE 802.3z for 1000Base-SX/LX/LHX/ZX
  - IEEE 802.3x for Flow Control
- PoE**
  - Port 1 ~ Port 4: IEEE 802.3at/af
- Console Port**
  - RS-232 (RJ45)
- Power Connector**
  - 6-pin screw Terminal Block (including relay)

#### Physical

- Enclosure**
  - Metal Shell
- Protection Class**
  - IP 30
- Installation**
  - DIN-Rail, Wall-mount
- Dimensions (W x H x D)**
  - 74 x 152 x 105 mm (2.91" x 5.98" x 4.13")

#### LED Indicators

- System LED**
  - PWR1, PWR2, SYS, Alarm and R.M.
- Port LED**
  - Link / Speed / Activity / PoE

#### Environment

- Operating Temperature**
  - 40 ~ 75°C (-40 ~ 167°F) (EKI-7708E-4FPI)
  - 10 ~ 60°C (-40 ~ 140°F) (EKI-7708E-4FP)
- Storage Temperature**
  - 40 ~ 85°C (-40 ~ 185°F)
- Ambient Relative Humidity**
  - 5 ~ 95% (non-condensing)
- Overload Current Protection**
  - Present
- Reverse Polarity Protection**
  - Present
- MTBF**
  - 910,074 hours

#### Power

- Power Consumption**
  - 12.1W @ 48V<sub>DC</sub> (System)
- Power Input**
  - 48 V<sub>DC</sub> (46 to 57 V<sub>DC</sub>)
  - 53 ~ 57 V<sub>DC</sub> is recommended for 802.3at redundant dual power input
- Power Budget**
  - 120W
- Fault Output**
  - 1 Relay Output

#### Certification

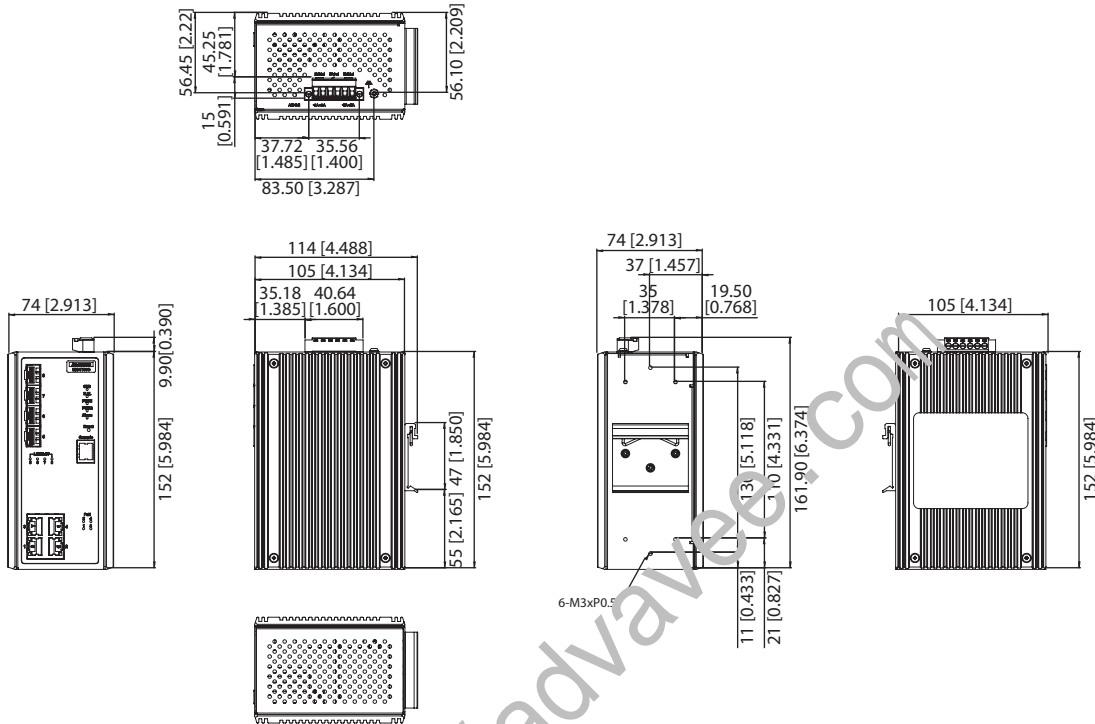
- Safety**
  - UL 61010-2-201
- EMI**
  - CE, CISPR 32, FCC Part 15B Class A
- EMS**
  - IEC 61000-4-2
  - IEC 61000-4-3
  - IEC 61000-4-4
  - IEC 61000-4-5
  - IEC 61000-4-6
  - IEC 61000-4-8
  - IEC 61000-4-11
- EMC**
  - EN 61000-6-2
  - EN 61000-6-4
- Shock**
  - IEC 60068-2-27
- Freefall**
  - IEC 60068-2-32
- Vibration**
  - IEC 60068-2-6
- Traffic control**
  - NEMA TS-2
- Railway Trackside**
  - EN 50121-4

#### Switch Properties

- Switch Capacity**
  - 8.8Gbps
- Transmission Rate**
  - 6.55Mpps
- MAC Table Size**
  - 8K
- Jumbo Frame**
  - 1,0240 Bytes
- Packet Buffer Size**
  - 4.1Mb
- Max. IGMP Group**
  - 256
- Max. VLAN Group**
  - 256 (VLAN ID 1 ~ 4094)

## Dimensions

Unit: mm [inch]



**Panel Cut-out Dimensions (W x H x D): 74 x 152 x 105 mm (2.913 x 5.98 x 4.134 inch)**

### L2 Features

- VLAN Arrange** 802.1Q Tag-based VLAN, 802.1ad QinQ VLAN Stacking
- Port Mirroring** 1 to 1, N to 1  
Max. Mirror Session: 4
- RSPAN** Remote Switched Port Analysis
- GARP** GVRP, GMRP
- IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- Storm Control** Broadcast, Multicast, Unknown unicast
- LLDP** 802.1ab LLDP, LLDP-MED
- Industrial Protocol** Modbus/TCP
- Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro, with ultra high-speed recovery time less than 20ms, ERPS(G.8032)

### QoS

- Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority, Max. Priority Queues: 8
- Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- Rate Limiting** Ingress Rate Limit, Egress Rate Limit
- Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

### Security

- Port Security** Static/Dynamic MAC, Max. Learning Limit, MAC Violation Notice
- 802.1X** Port-based/MAC-based Authentication (MD5/PEAP/TLS/TTLS Encryption)
- MAB** MAC Authentication Bypass
- Authentication** RADIUS, TACAS+
- IP Security** IP Source Guard, DHCP Snooping, ARP Spoofing Prevention
- ACL** Access Control List (IP-ACL, MAC-ACL)  
Max. ACL Entries: 128

### Management

- PoE** PoE system settings, port settings and status
- DHCP** Client, Server, Option66/67/82, DHCP Relay
- Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB-II, Private MIB, Ethernet-Like MIB, RMON MIB (Group 1, 2, 3, 9)
- Security Access** SSH2.0, SSL
- Software Upgrade** TFTP, SFTP, HTTP, Dual Image
- NTP** SNTP client

## Ordering Information

- EKI-7708E-4FPI-AE** 4FE + 4G SFP Port Managed PoE Ethernet Switch w/ Wide Temp
- EKI-7708E-4FP-AE** 4FE + 4G SFP Port Managed PoE Ethernet Switch

Note: For SFP copper type, only 1000Mbps supported.