

# EKI-7712E-4F

# EKI-7712E-4FI

## 8FE+4G SFP Port Managed Redundant Industrial Switch



### Features

- 8 x Fast Ethernet ports + 4 x SFP ports
- 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 12 ~ 48 V<sub>DC</sub> power input and 1 x relay output

### Introduction

The EKI-7712E-4F and EKI-7712E-4FI provide abundant port options for connecting to various different device types, with 8 fast Ethernet ports and 4 SFP (mini-GBIC) ports. These units are embedded with Advantech's IXM function for fast deployment, which can dramatically save on engineering time and costs. The EKI-7712E series also support NMS to help IT managers with networking maintenance and failure prevention. Finally, the series are equipped with X-Ring Pro, which can achieve ultra-high-speed recovery times of <20 ms, thus ensuring network stability. The EKI-7712G-4FI features a wide operating temperature of -40 to 75°C and NEMA TS2 rating, making it ideal for use in traffic applications. Both switches comply with EN50121-4 European railway standard requirements for emissions and railway platform and trackside deployment.

### Specifications

#### Interfaces / Communications

- **I/O Port**  
8 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 10BaseT  
IEEE 802.3u for 100BaseT(X)/FX  
IEEE 802.3z for 1000BaseSX/LX/LHX/ZX  
IEEE 802.3x for Flow Control
- **Console port**  
RS-232 (RJ45)
- **Power Connector**  
6-pin screw Terminal Block (including relay)

#### Physical

- **Enclosure**  
Metal Shell
- **Protection Class**  
IP 40
- **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

#### Environment

- **Operating Temperature**  
-40 ~ 75°C (-40 ~ 167°F) (EKI-7712E-4FI)  
-10 ~ 60°C (-40 ~ 140°F) (EKI-7712E-4F)
- **Storage Temperature**  
-40 ~ 85°C (-40 ~ 185°F)
- **Ambient Relative Humidity**  
5 ~ 95% (non-condensing)
- **Overload Current Protection**  
Present
- **Reverse Polarity Protection**  
Present
- **MTBF**  
1,377,597 hours

#### Power

- **Power Consumption**  
12.1W @ 48V<sub>DC</sub> (System)
- **Power Input**  
12 ~ 48 V<sub>DC</sub>, redundant dual power input
- **Fault Output**  
1 Relay Output

#### Certification

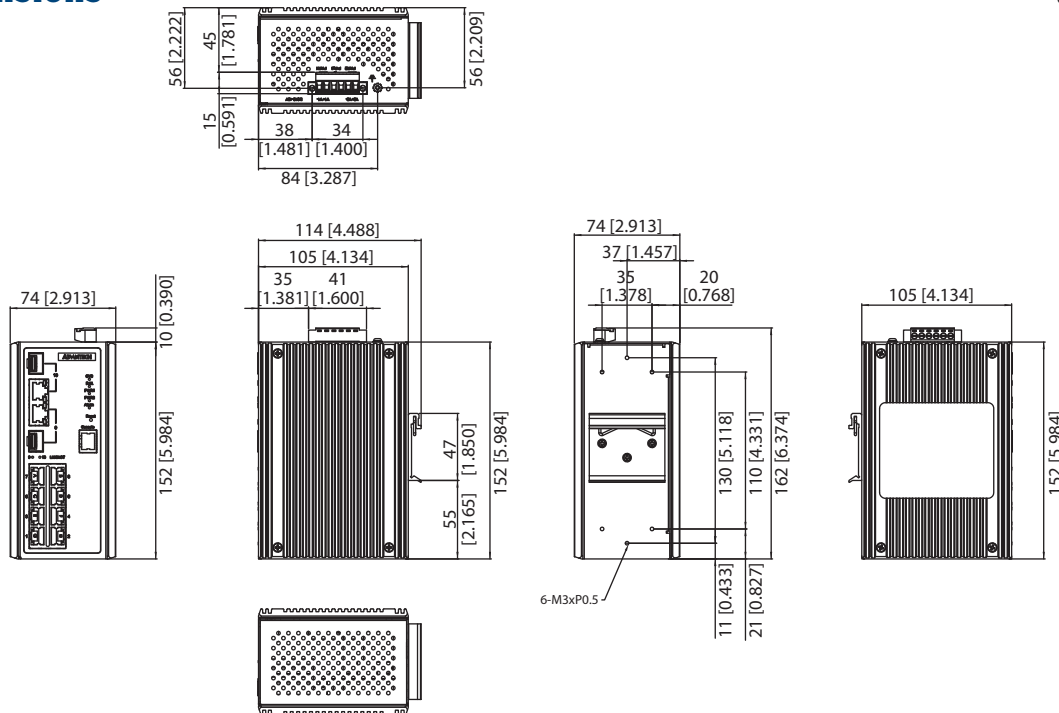
- **Safety**  
UL 61010-2-201, EN LVD 62368
- **EMI**  
CE, CISPR 32, FCC Part 15B Class A
- **EMS**  
EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8
- **EMC**  
EN 61000-6-2  
EN 61000-6-4
- **Shock**  
IEC 60068-2-27
- **Freefall**  
IEC 60068-2-32
- **Vibration**  
IEC 60068-2-6
- **Traffic control**  
NEMA TS-2
- **Railway Trackside**  
EN 50121-4

#### Switch Properties

- **Switch Capacity**  
9.6Gbps
- **Transmission Rate**  
7.14Mpps
- **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: 105 (4.137) x 152 (5.984) x 74 (2.91)**

### 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  
Remote Switched Port Analysis
- **RSPAN** GVRP, GMRP
- **GARP** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- **IP Multicast** Broadcast, Multicast, Unknown unicast
- **Storm Control** 802.1ab LLDP, LLDP-MED
- **LLDP** Modbus/TCP
- **Industrial Protocol** 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)
- **Redundancy**

### 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

- **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-7712E-4FI-AE** 8FE + 4SFP Port Managed Ethernet Switch w/Wide Temp
- **EKI-7712E-4F-AE** 8FE + 4SFP Port Managed Ethernet Switch

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