EKI-7708G-4F
EKI-7708G-4FI

4GE+4G SFP Port Gigabit Managed Redundant Industrial Switch

Features

- 4 x Gigabit 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_{DC} power input and 1 x relay output

Introduction

The EKI-7708G-4F and EKI-7708G-4FI provide users with abundant port options for connecting to various device types with 4 Gigabit ports and 4 SFP (mini-GBIC) ports. These switches are embedded with Advantech's IXM function, which can benefit users with fast deployment and a marked reduction in engineering time and costs. The EKI-7708G 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 to ensure network stability. The EKI-7708G-4FI in particular also features a wide operating temperature range of -40 to 75°C and a NEMA TS2 rating, making it ideal for use in traffic applications. Furthermore, these switches meet the EN50121-4 European railway standard requirement for emissions and railway platform and trackside deployment.

Specifications

Interfaces / Communications

- **I/O Port**
  4 x 10/100/1000BASE-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 802.3ab 1000BaseT(X)
  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 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

Environment

- **Operating Temperature** -40 ~ 75°C (-40 ~ 167°F) (EKI-7708G-4FI)
  -10 ~ 60°C (-40 ~ 140°F) (EKI-7708G-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** 2,570,552 hours

Power

- **Power Consumption** 12.1W @ 48V_{DC} (System)
- **Power Input** 12 ~ 48 V_{DC}, redundant dual power input
- **Fault Output** 1 Relay Output

Certification

- **Safety** UL 61010-1, 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** 16Gbps
- **Transmission Rate** 11.9Mpps
- **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]
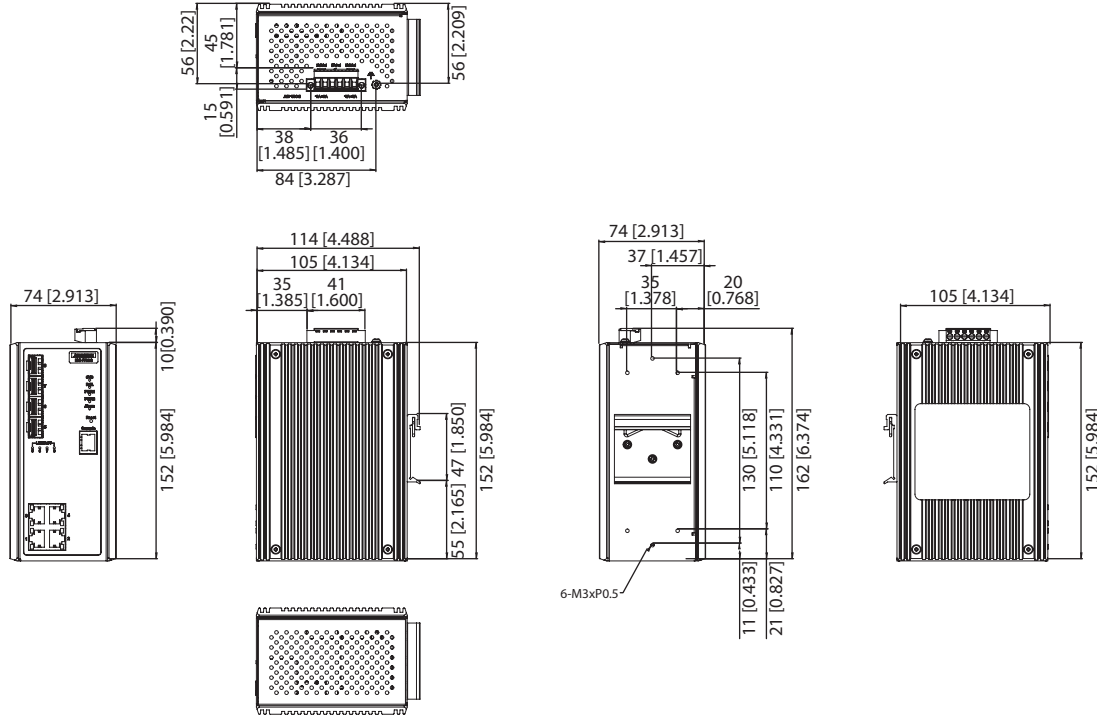
Panel Cut-out Dimensions: 105 (4.137) x 152 (5.984) x 74 (2.91)

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
- **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

- **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-7708G-4FI-AE** — 4GE + 4G SFP Port Managed Ethernet Switch w/Wide Temp
- **EKI-7708G-4F-AE** — 4GE + 4G SFP Port Managed Ethernet Switch

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