EKI-7708G-2MI/2SI

6GE+2G Multi/Single-Mode SC Fiber Port Industrial Managed Ethernet Switch

Features

- 6 x Gigabit Ethernet ports + 2 x 1000 Mbps fiber ports with SC type connector
- 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} and 24V_{AC} power input and 1 x relay output

Introduction

Advantech's EKI-7708G-2MI/2SI are cost effective managed industrial Ethernet switches which support Gigabit Ethernet via built in fiber optic ports. These solutions feature embedded IXM functions to hasten deployment and reduce engineering time/costs. These switches extend transmission distances beyond the 100 m (328 ft) copper cable limitations using fiber port — they support 550 m (1804 ft) in multi-mode and 10 km (6.21 mi) in single mode. The EKI-7708G-2MI/2SI series supports WebAccess/NMS to aid in network maintenance and failure prevention. These managed Ethernet switches deliver ultra-high speed recovery times of <20 ms using X-Ring Pro to ensure network stability. This solution supports broad operating temperatures (-40 ~ 75 °C /-40 ~ 167 °F), for use in traffic applications.

Specifications

Interfaces / Communications

- **I/O Port**
  6 x 10/100/1000BASE-T/TX RJ-45
  2 x 1000Base-SX/LX fiber SC type connector
  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
  IEEE 802.3x for Flow Control
- **Transmission Distance**
  Ethernet: Up to 100 m (328 ft)
  Fiber:
  Multi-mode: Up to 550 m (1804 ft) (EKI-7708G-2MI)
  Single-mode: Up to (6.21 mi) (EKI-7708G-2SI)
- **Console port** RS-232 (RJ45)
- **Power Connector** 6-pin screw Terminal Block (including relay)
- **Optical Fiber**
  Multi-mode
  (EKI-7708G-2MI)
  Wavelength: 850 nm
  Tx Power: -4/-9.5 dBm
  Rx Sensitivity: -18 dBm
  Parameters: 50/125 um, 62.5/125 um

  Single-mode
  (EKI-7708G-2SI)
  Wavelength: 1310 nm
  Tx Power: -3/-9.5 dBm
  Rx Sensitivity: -20 dBm
  Parameters: 9/125 um

Physical

- **Enclosure** Metal Shell
- **Protection Class** IP 30
- **Installation** DIN-Rail, Wall-mount
- **Dimensions (W x H x D)** 59.6 x 152 x 105 mm (2.35 x 5.98 x 4.13 in)

LED Indicators

- **System LED** P1, P2, P-Fail
- **Port LED** Fiber: LNK/ACT
  Ethernet: 1000M, LNK/ACT

Environment

- **Operating Temperature** -40 ~ 75°C (-40 ~ 167°F)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Ambient Relative Humidity** 5 ~ 95% (non-condensing)
- **Overload Current Protection** Present
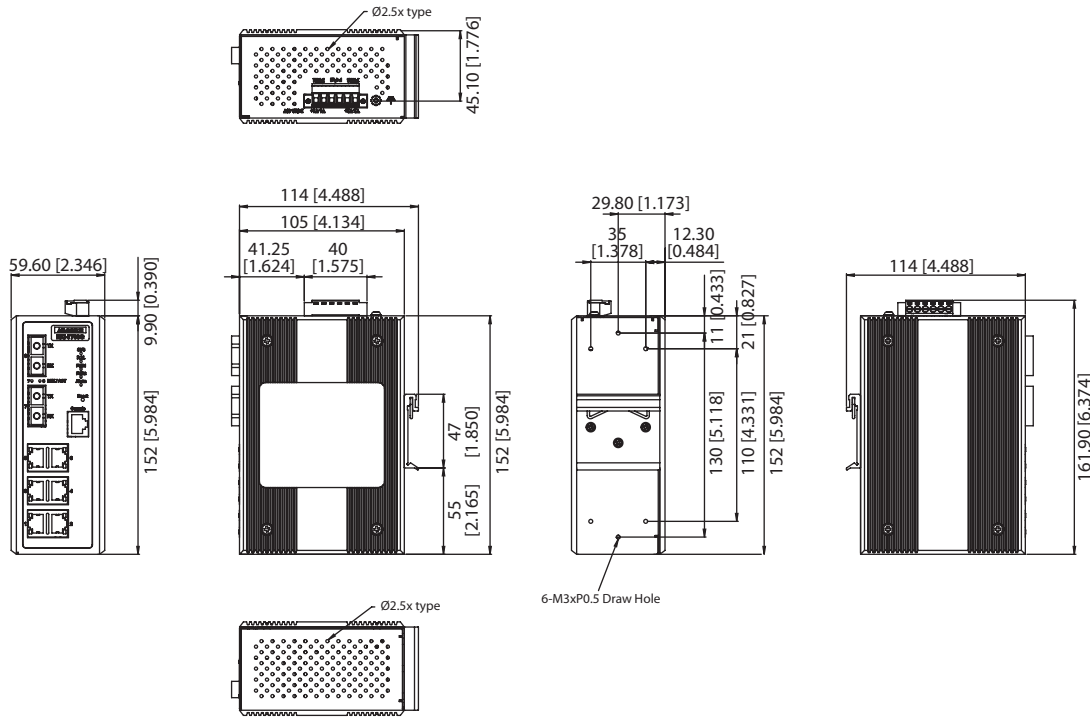- **Reverse Polarity Protection** Present
- **MTBF** TBC

Power

- **Power Consumption** 7W @ 48V_{DC} (System)
- **Power Input** 12 ~ 48 V_{DC}, 24 V_{AC} (18 ~ 30 V_{AC}), redundant dual power input
- **Fault Output** 1 Relay Output

Certification

- **Safety** 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

Last updated: 22-Jun-2021

Dimensions

Unit: mm [inch]

Ø2.5x type

45.10 [1.776]

114 [4.488]
105 [4.134]
41.25 [1.624] 40 [1.575]

29.80 [1.173]
35 [1.378] 12.30 [0.484]

114 [4.488]

59.60 [2.346]

9.90 [0.390]

152 [5.984]

47 [1.850]

55 [2.165]

152 [5.984]

11 [0.433]
21 [0.827]

130 [5.118]
110 [4.331]
152 [5.984]

161.90 [6.374]

Ø2.5x type

6-M3xP0.5 Draw Hole

Panel Cut-out Dimensions (W x H x D): 59.6 x 152 x 105 mm (2.35 x 5.98 x 4.13 in)

Switch Properties

- **Switching Capacity** — 16 Gbps
- **Transmission Rate** — 11.9 Mpps
- **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)

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-2MI-AE** — 6G+2G Multi-mode SC Fiber Managed Ethernet Switch with wide temperature operation
- **EKI-7708G-2SI-AE** — 6G+2G Single-mode SC Fiber Managed Ethernet Switch with wide temperature operation