EKI-7716G-4F4CI

8GE+4SFP+4G Combo Port Managed Redundant Industrial Switch

Features

- 8 x Gigabit Ethernet + 4 x Gigabit SFP + 4 x Gigabit Copper/SFP combo 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-7716G-4F4CI offer 8 fast Ethernet, 4 Gigabit SFP (mini-GBIC), and 4 Gigabit combo ports. These switches provide abundant port options for connecting to various device types. They are also embedded with Advantech IXM function for fast deployment, which can dramatically save on engineering time and costs. The EKI-7716G also support NMS to help IT managers with networking maintenance and failure prevention. Finally, they are equipped with X-Ring Pro redundancy for ultra-high-speed recovery times of <20 ms.

The EKI-7716G-4F4CI 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. The switch also meet the EN50121-4 European railway standard for emissions and EMI immunity for railway platforms and trackside deployment.

Specifications

Interfaces / Communications

- **I/O Port**
  8 x 10/100/1000BASE-T/TX RJ-45
  4 x SFP (mini-GBIC) port
  4 x 10/100/1000BASE-T/TX or SFP (mini-GBIC) Combo 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)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Ambient Relative Humidity** 5 ~ 95% (non-condensing)
- **Overload Current Protection** Present
- **Reverse Polarity Protection** Present
- **MTBF** 883,378 hours

Power

- **Power Consumption** 15W @ 48V (Full Load)
- **Power Input** 12 ~ 48 V$_{DC}$, redundant dual power input
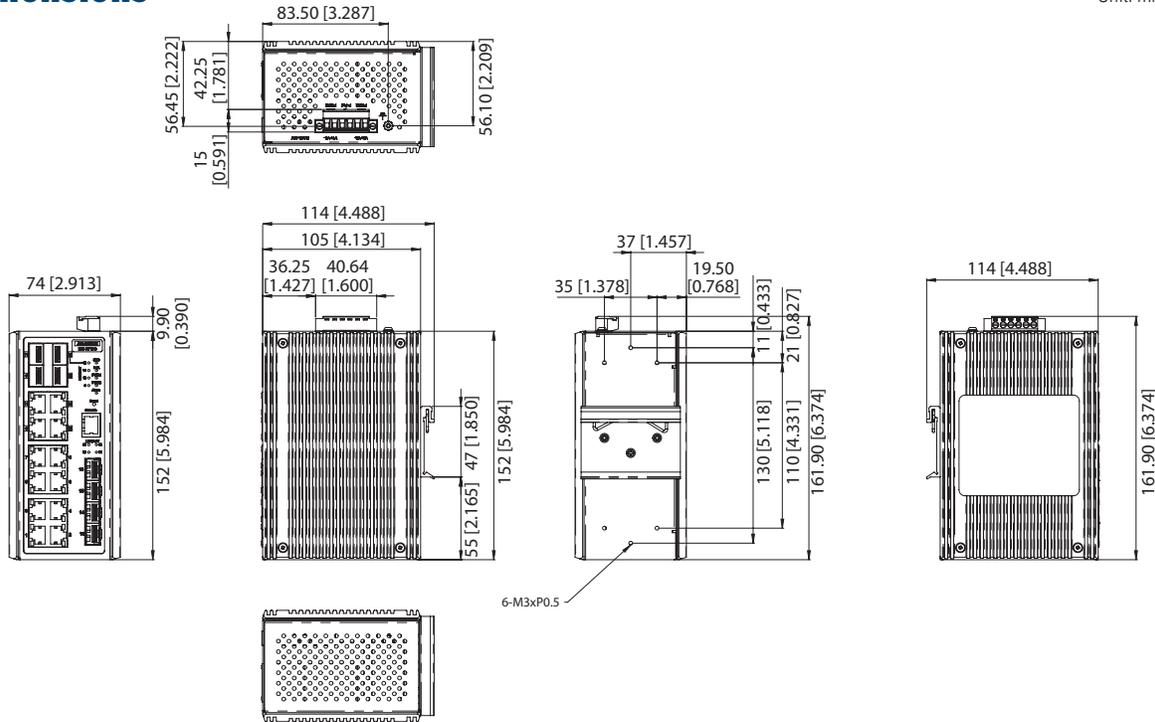- **Fault Output** 1 Relay Output

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

- **Switching Capacity** 32Gbps
- **Transmission Rate** 23.8Mpps
- **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]

83.50 [3.287]
56.45 [2.222]
42.25 [1.781]
56.10 [2.209]
15 [0.591]

114 [4.488]
105 [4.134]
36.25 [1.427] 40.64 [1.600]
74 [2.913]
9.90 [0.390]
152 [5.984]
47 [1.850]
152 [5.984]
55 [2.165]

37 [1.457]
35 [1.378]
19.50 [0.768]
11 [0.433]
21 [0.827]
130 [5.118]
110 [4.331]
161.90 [6.374]

114 [4.488]
161.90 [6.374]

6-M3xP0.5

Panel Cut-out Dimensions: 84 (3.31) x 120 (4.72) x 43 (1.69)

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-7716G-4F4CI-AE** — 8GE+4SFP+4G Combo port Managed Industrial Switch w/Wide Temp.

Note: For SFP copper type, only 1000Mbps supported