EKI-9212G-4XFOI

IEC 61850-3 8GE + 4 10G SFP+ Redbox Switch



Features

- IEC 61850-3 & IEEE 1613 Compliant
- IEC 62443-4-2 SL2 Industrial Cybersecurity Certified
- IEC 62439-3 Compliant — Supports PRP (Clause 4) and HSR (Clause 5)
- Supports up to 4 HSR/PRP Groups
- IEEE 1588v2 (PTP) Supported
- IEEE C37.238 Power Profile Supported
- Front Access Design for Convenient Installation and Maintenance
- Dual 90–264 VAC/VDC Power Inputs
- Wide Operating Temperature Range: -40°C to 85°C

Introduction

The EKI-9212G-4XFOI is an HSR/PRP managed redundancy box featuring 8 Gigabit Ethernet ports and 4 x 10G SFP+ ports. It complies with the industrial automation redundancy standards IEC 62439-3 Clause 4 (Parallel Redundancy Protocol, PRP) and Clause 5 (High-availability Seamless Redundancy, HSR), providing zero recovery time for seamless network redundancy.

With its rugged design and compliance with IEC 61850-3 and IEEE 1613, the EKI-9212G-4XFOI ensures high network availability and reliability for mission-critical applications, including smart grids, substations, and industrial automation systems.

Specifications

Communications

Standard	IEEE 802.3 10BASE-T(X) IEEE 802.3u 100BASE-T(X) IEEE 802.3ab 1000BASE-T(X) IEEE 802.3z 1000BASE-LX IEEE 802.3x Flow Control
LAN	10/100/1000Base-T(X), 100Base, 1000Base or 10GBase SFP
Transmission Distance	Ethernet: Up to 100m SFP: Up to 80km (depends on SFP)
Transmission Speed	Gigabit Copper: 10/100/1000 Mbps, auto-negotiation Gigabit Fiber: Up to 10Gbps
Switch Capacity	96 Gbps
Forwarding Rate	71.4 Mpps

Interface

I/O Port	8 x 10/100/1000BASE-T/TX RJ-45 4 x SFP+ (mini-GBIC) port
Console Port	RS-232 (RJ45)
Power Connector	2-pin screw Terminal Block

Mechanism

Enclosure	Metal Shell
Protection Class	IP40
Installation	Din-Rail, Wall mount
Dimensions (W x H x D)	85 x 152 x 116 mm (3.35" x 5.98" x 4.57")
Weight	1.6kg

LED Indicators

System LED	PWR1, PWR2, SYS, Alarm and R.M
Port LED	Link / Speed / Activity
HSR/PRP LED	Mode

Environment

Operating Temperature	-40 ~ 85°C (-40 ~ 185°F)
Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)
Ambient Relative Humidity	10 ~ 95% (non-condensing)
Humidity	10 ~ 95% (non-condensing)
MTBF	TBC

Power

Power Consumption	30W (Max.)
Power Input	90-264 V_{AC}, 88-300 V_{DC} dual power inputs with a single power module.
Fault Output	1 Relay Output
Overload Current Protection	Present
Revise Polarity Protection	Present

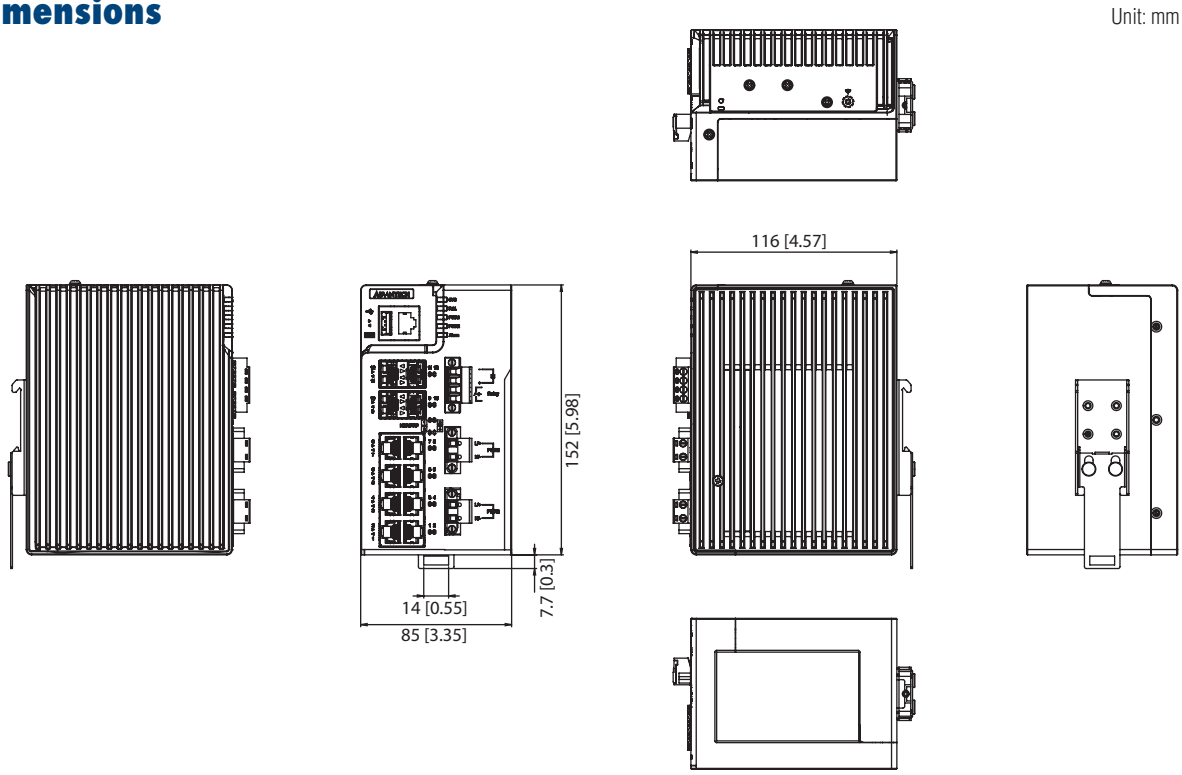
Certification

EMI	CE, FCC 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
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Substation	IEC61850-3, IEEE1613
Cybersecurity	IEC 62443-4-1, IEC 62443-4-2

All product specifications are subject to change without notice.

Dimensions

Unit: mm [inch]



Panel Cut-out Dimensions (W x H x D): 85 x 152 x 116 mm (3.35" x 5.98" x 4.57")

L2 Features

- **L2 MAC Address** 16K
- **Jumbo Frame** 9K
- **VLAN Group** 256 (VLAN ID 1 ~ 4094)
- **VLAN Arrange** 801.1ad Q-in-Q VLAN Stacking, 802.1Q Tag-based VLAN, 802.1v Protocol-based VLAN, MAC-based VLAN, IP Subnet-based VLAN, Private VLAN
- **Port Mirroring** 1 to 1, N to 1 Mirroring Max Mirror Sessions: 5
- **Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking, Load Balance
- **GARP** GVRP, GMRP
- **IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- **Storm Control** Broadcast, Multicast, Unknown unicast
- **Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, MPR, HSR, PRP
- **Time Synchronization** IEEE 1588v2 PTP (TC/BC/OC mode)

Power Substation

- **IEC 61850** GOOSE QoS, SMV QoS, C37.238 Power Profile, MMS

QoS

- **Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Scheduling Priority) Hybrid Priority
- **Class of Service** IEEE 802.1p Based CoS, IP TOS, DSCP based CoS
- **Rate Limiting** Ingress Rate limit, Egress Rate limit

Security

- **Port Security** Static, Dynamic IP Source Guard, ARP Spoofing Prevention, Access Control List, DHCP Snooping,
- **Authentication** 802.1x (Port-Based, MD5 Encryption), TACACS+

Management

- **DHCP** DHCP Client / Server, DHCP Relay, Option 82
- **Access** SNMP v1/v2c/v3, HTTP, HTTPS, Telnet, Standard MIB
- **Configuration Upload / Download** HTTP, TFTP
- **Security Access** SSH2.0, SSL
- **Software Upgrade** Configuration Backup / Restore, Dual Image
- **NTP** SNTP client, NTP Client

Ordering Information

- **EKI-9212G-4XFOI-A** IEC 6180-3 8GE + 4 10G SFP+ Redbox Switch