

# EKI-9228G-8CMI

# EKI-9228G-8COI

**Ind. Rackmount L2 Managed Switch with 48V<sub>DC</sub>**

**Ind. Rackmount L2 Managed Switch with AC/DC**



## Features

- 16 x Gigabit RJ-45 ports + 4 Gigabit x SFP ports + 8 x Gigabit combo ports
- SFP socket for easy and flexible fiber expansion
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB
- Security: 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption), HTTPS, SSH and SNMPv3
- Redundancy: Gigabit X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D), MSTP
- Dual power input and 2 relay output
- -40 ~ 85°C wide-range operating temperature

## Introduction

The EKI-9228G series are designed for power substation automation applications which meet IEC 61850-3 certification. Thanks to its -40 ~ 85°C wide operating temperature it can operate reliably in extremely harsh environments. Designed with 16 Gigabit ports, 4 Gigabit SFP ports, and 8 Gigabit ports it provides abundant and flexible connection. Finally, the EKI-9228G series contain dual power inputs to ensure system stability and 2 relay outputs for greater user flexibility.

## Specifications

### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.3z, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3ad, 802.3ab
- **LAN** 10/100/1000Base-T (X), Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
- **Transmission Distance** Ethernet: Up to 100 m (4-wire Cat.5e, Cat.6 RJ45 cable suggested for Gigabit port)  
SFP: Up to 110 km (depends on SFP)
- **Transmission Speed** Ethernet: 10/100 Mbps Auto-Negotiation  
Gigabit Copper: 10/100/1000 Mbps, Auto-Negotiation  
Gigabit Fiber: Up to 1000 Mbps

### Interface

- **Connectors** 16 x RJ45 (Ethernet)  
8 x RJ45/SFP (mini-GBIC) combo ports  
4 x SFP Ports  
3-pin removable screw terminal (Power)  
4-pin removable screw terminal (Relay)
- **LED Indicators** 10/100T (X): Link/Activity, Duplex/Collision  
Gigabit Copper: Link/Activity, Speed (1000 Mbps)  
SFP: Link/Activity
- **Console** RS-232 (RJ45)

### Mechanism

- **Enclosure** IP30, metal shell with solid mounting kits
- **Dimensions (W x H x D)** 442 x 44 x 352 mm (17.4" x 1.73" x 13.85")
- **Mounting** 1U 19" Rack mount

### Power

- **Power Consumption** EKI-9228G-8CMI: 19.21 W @ 48V  
EKI-9228G-8COI: 19.24 W @ 110V<sub>AC</sub>
- **Power Input** EKI-9228G-8CMI: 48V<sub>DC</sub>  
EKI-9228G-8COI: 90 ~ 264AC/88 ~ 370V<sub>DC</sub>
- **Fault Output** 2 Relay Outputs

### Protection

- **Power Reverse** Present
- **Overload Current** Present

### Environment

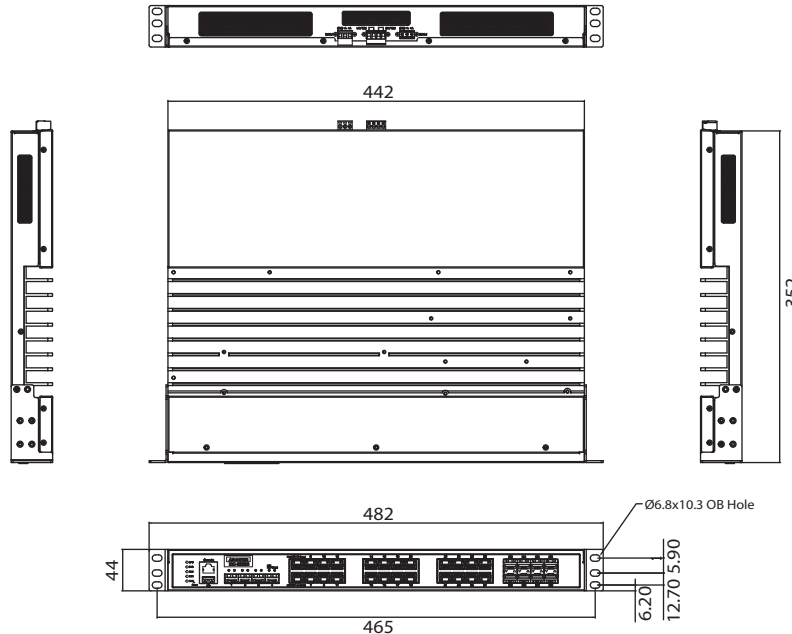
- **Operating Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Operating Humidity** 10 ~ 95% (non-condensing)
- **Storage Humidity** 10 ~ 95% (non-condensing)

### Certification

- **Safety** UL 60950
- **EMI** CE FCC EN55022 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
- **Power Automation** IEC 61850-3

## Dimensions

Unit: mm



### L2 Features

- **L2 MAC Address** 16K
- **Jumbo Frame** 9KB
- **VLAN Group** 4093 (VLAN ID 1-4093)
- **VLAN** Mac based VLAN, Protocol based VLAN, IP subnet based VLAN, Port based VLAN, GVRP
- **Port Mirroring** Per port, Multi-source port
- **IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping, IGMP Immediate leave
- **Storm Control** Broadcast, Multicast, Unknown unicast
- **Spanning Tree** IEEE 802.1D-STP, IEEE 802.1s-MSTP, IEEE 802.1w-RSTP, X-Ring Pro

### QoS

- **Priority Queue Scheduling** WRR (Weighted Round Robin), SP (Strict Priority)
- **Class of Service** IEEE 802.1p based CoS, IP TOS, DSCP based CoS
- **Rate Limiting** Egress Rate limit, Ingress Rate limit
- **Link Aggregation** IEEE 802.3ad Dynamic Port Trunking, Static Port Trunking

### Security

- **Port Security** Static, Dynamic
- **Authentication** 802.1x (Port-Based), RADIUS, TACACS+
- **ACL** 550 rules
- **Advanced Security** IP Source Guard

### Management

- **DHCP** Client, Server, Relay, Option 66/67
- **Access** SNMP v1/v2c/v3, WEB, Telnet, RMON, Standard MIB, Private MIB
- **Security Access** SSH 2.0, SSL
- **Software Upgrade** TFTP, HTTP, Dual Image
- **NTP** NTP client

## Ordering Information

- **EKI-9228G-8CMI-AE** Ind. Rackmount L2 Managed Switch with 48VDC
- **EKI-9228G-8COI-AE** Ind. Rackmount L2 Managed Switch with AC/DC