

EKI-9516 Series

EN 50155 16-Port Managed Ethernet Switch with up to 12 x PoE Ports



Features

- M12 connector with IP67 rugged housing
- Complies with EN50155 & EN50121-3-2
- Up to 12 PoE ports which support IEEE802.3af/at
- Wide nominal power input range: 24-110V_{DC}
- Operating power input range: 16.8-137.5V_{DC}
- Supports X-Ring Pro for rapid and predictable convergence
- Supports IXM for fast and easy maintenance
- Supports N-Key for quick configuration and backup
- Operating temperature: -40 ~ 75°C
- Provides Fast Ethernet & Full Giga Ethernet solution

Introduction

The EKI-9516 series Ethernet switch is designed for railway applications with rugged housing and high EMC performance. The EKI-9516 series is a suitable networking solution for rolling stock and wayside applications. It provides M12 connectors for Ethernet/ console/ relay/ power input (M23) connections to ensure tight and robust connectivity, guarantees reliable operation against environmental disturbances, and complies with IEC61373 vibration and shock for rolling stock applications. The portfolio of the EKI-9516 series provides different options, catering to various user requirements. It provides 16-ports on different port configuration (please refer to the ordering information). With IEEE802.3af/at PoE functionality (PoE model only), it provides up to a 150 watt power budget (depends on different input voltage, please refer to PoE Total Power Budget) for P.D. devices (such as camera, IP-phone and wireless access point). The EKI-9516 series features IP67 housing and ample pitch connectors that can easily connect/ disconnect cables without interference; reducing human errors within the harsh and narrow industrial environments.

Specifications

Interface

- **Ethernet Port**
 - M12 4pin D-coded Female for Fast Ethernet (10/100BASE-T)
 - M12 8pin X-coded Female for Giga Ethernet (10/100/1000BASE-T)
- **Console Port**
 - M12 5pin A-coded Female
- **Relay Port**
 - M12 5pin A-coded Female with 2 relay outputs of 1A @ 24V_{DC}
- **Power Connector**
 - M23 connector

Physical

- **Enclosure**
 - Aluminum Die-casting
- **Protection Class**
 - IP67
- **Installation**
 - Wall Mount
- **Dimension**
 - 254 x 174 x 64.5 mm (W x H x D)

LED Display

- **System LED**
 - PWR1, PWR2, SYS, Alarm, R.M.
- **Port LED**
 - Data, PoE (For PoE model only)

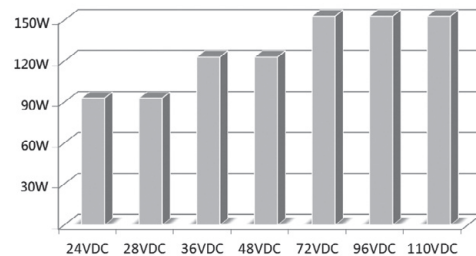
Environment

- **Operating Temperature**
 - 40~75°C (-40~167°F)
- **Storage Temperature**
 - 40~85°C (-40~185°F)
- **Humidity**
 - 5~95% (non-condensing)

Power

- **Power Consumption**
 - 17 Watts (System)
- **Nominal Input Voltage**
 - 24/28/36/48/72/96/110V_{DC}
- **Operating Input range**
 - 16.8-137.5V_{DC}
- **Power Interruptions**
 - Class S2 (10ms) for system and PoE (system only@24V_{DC} input)

PoE Total Power Budget



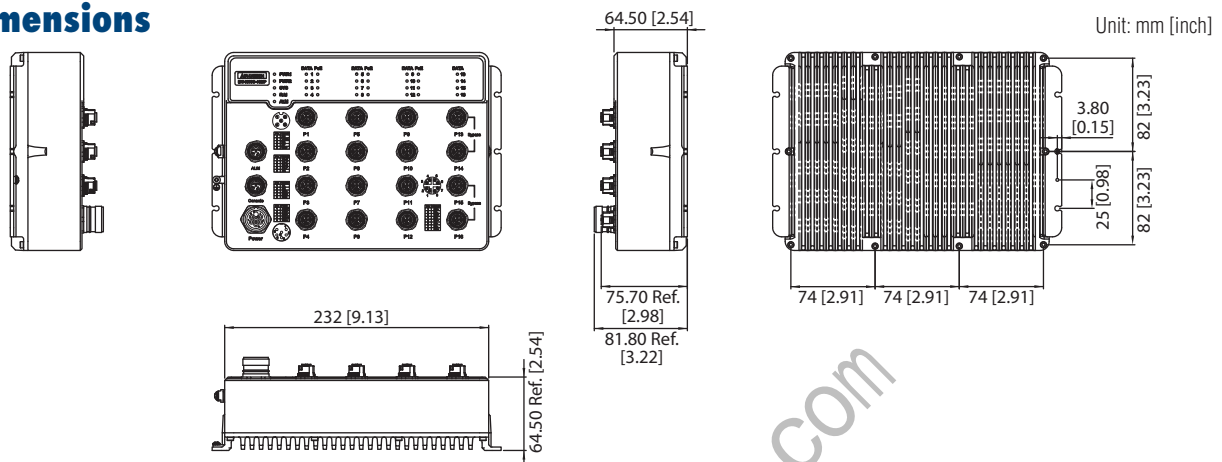
Certification

- **Safety**
 - EN62368-1
- **EMC**
 - CE, EN55011/ 55032/ 55024; FCC Part 15 Subpart B class A
- **EMS**
 - EN61000-4-2(ESD); EN61000-4-3(RS); EN61000-4-4(EFT); EN61000-4-5(Surge); EN61000-4-6(CS)
- **Shock**
 - EN 61373
- **Vibration**
 - EN 61373
- **Railway**
 - EN50155, EN50121-2-3, 50121-1
- **Fire Protection**
 - EN45545-2
- **Other**
 - EN61000-6-4, EN61000-6-2

L2 Feature

- **L2 MAC Address**
 - 8K
- **Jumbo Frame**
 - 9KB
- **VLAN Group**
 - 256 (VLAN ID 1-4094)
- **VLAN Group**
 - 802.1Q, GVRP, GMRP, 802.1ad VLAN stacking
- **Port Mirroring**
 - Per port, Multi-source port (4 Mirroring sessions Max.)
- **IP Multicast**
 - IGMP snooping v1/v2/v3, MLD snooping(256 Multicast Entries Max.)

Dimensions



- **Storm Control** Broadcast, Multicast, Unknown Unicast
 - **Redundant Protocol** IEEE 802.1D(STP), IEEE802.1s(MSTP), IEEE802.1w(RSTP), X-Ring Pro, X-Chain, Dual homing, Coupling, ERPS G.8032
- Quality of Service**
- **QoS Function** Scheduling(STRICT/ WRR), Port Priority, 802.1p, DSCP, IP TOS/ precedence
 - **Rate Limit** Ingress/ Egrss Rate limit
 - **Max Priority Queues** 8
- Security**
- **Port Security** Static MAC, MAC violation notice, port-based loop detection
 - **Authentication** 802.1x (Port-based, MAC-based), RADIUS, TACACS+
 - **Security Pack** IP source guard, DoS attack prevention, DHCP snooping, ARP spoofing prevention, L2/ L3/ L4 ACL (Access Control List)
- Management Feature**
- **DHCP** Client, Server, Option66/67/82, Port IP-Binding
 - **Access** SNMP v1/v2c/v3, WEB, Telnet, Console, RMON, Standard MIB, Private MIB
 - **Security Access** SSH (v2), SSL (v2), HTTPs
 - **Software Upgrade** TFTP, HTTP, Dual Image
 - **NTP** NTP server/ client, SNTP
 - **Other** IPv4, IPv6, Modbus TCP, IXM, N-Key for config file backup/ restore

Accessories

PN		Description
OPT1-M12-CRP-4MD		Phoenix Contact M12 D-code 4 pin Male crimp type connector
OPT1-M12-CRP-8MX		Phoenix Contact M12 X-code 8 pin Male crimp type connector
OPT1-M12-CRP-5MA		Phoenix Contact M12 A-code 5 pin Male crimp type connector
OPT1-M12C-4MD-150R		M12 D-code 4 pin Male to RJ45, cable length:1.5m
OPT1-M12C-8MX-150R		M12 X-code 8 pin Male to RJ45, cable length:1.5m
OPT1-M12C-5MA-DB9		M12 A-code 5 pin Male to DB9 console, cable length:1.5m
OPT1-M23C-6FH-100		M23 Female to 1m cable
1990023703S000		M12 waterproof CAP

Ordering Information

Model name	10/100BASE-T	10/100BASE-T with PoE Function	10/100/1000BASE-T	10/100/1000BASE-T with PoE Function	10/100/1000BASE-T with Bypass Function
EKI-9516E-4GMPW-AE		12 (P1-12)			4 (P13-16)
EKI-9516G-4GMPW-AE				12 (P1-12)	4 (P13-16)
EKI-9516E-4GMW-AE	12 (P1-12)				4 (P13-16)
EKI-9516G-4GMW-AE			12 (P1-12)		4 (P13-16)
EKI-9516E-8GMPW-AE		8 (P1-8)		4 (P9-12)	4 (P13-16)
EKI-9516E-4GMPX-AE		12 (P1-12)	4 (P13-16)		
EKI-9516G-4GMPX-AE			4 (P13-16)	12 (P1-12)	
EKI-9516E-4GMX-AE	12 (P1-12)		4 (P13-16)		
EKI-9516G-4GMX-AE			16 (P1-16)		
EKI-9516E-8GMPX-AE		8 (P1-8)	4 (P13-16)	4 (P9-12)	
EKI-9516E-MX-AE*	16 (P1-16)				
EKI-9516E-MPX-AE*	4 (P13-P16)	12 (P1-12)			
EKI-9516E-2GMPX-AE*	2 (P13-14)	12 (P1-12)			
EKI-9516E-2GMX-AE*	14 (P1-14)		2 (P15-16)		

*: The product offerings are limited depending on region availability; please contact our local representatives for further inquiries.