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 ClassInstallationIP67Wall 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)

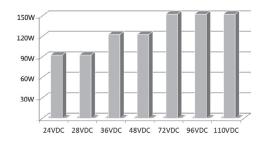
Power

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 61373Vibration EN 61373

Railway EN50155, EN50121-2-3, 50121-1

Fire Protection EN45545-2

■ **Other** EN61000-6-4, EN61000-6-2

L2 Feature

L2 MAC AddressJumbo Frame9KE

VLAN Group 256 (VLAN ID 1~4094)

VLAN Group

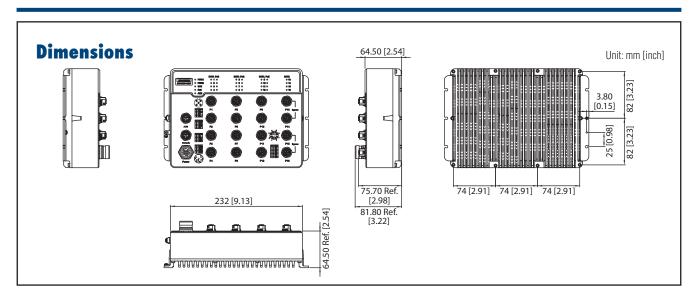
Port Mirroring

802.10, GVRP, GMRP, 802.1ad VLAN stacking
Per port, Multi-source port (4 Mirroring sessions

Max.)

■ IP Multicast IGMP snooping v1/v2/v3, MLD snooping(256

Multicast Entries Max.)



Storm ControlRedundant Protocol

Broadcast, Multicast, Unknown Unicast 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

Security

Port Security
 Static MAC, MAC violation notice, port-based loop detection

detection

Authentication
 Security Pack
 802.1x (Port-based, MAC-based), RADIUS, TACACS+
 IP source guard, DoS attack prevention, DHCP

snooping, ARP spoofing prevention, L2/L3/L4 ACL

(Access Control List)

Management Feature

DHCP Clien, Server, Option66/67/82, Port IP-Binding
 Access SNMP v1/v2c/v3, WEB, Telnet, Console, RMON,

Standard MIB, Private MIB

Security Access
 Software Upgrade
 NTP
 SSH (v2), SSL (v2), HTTPs
 TFTP, HTTP, Dual Image
 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	0	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	0	M12 A-code 5 pin Male to DB9 console, cable length:1.5m	
OPT1-M23C-6FH-100		M23 Female to 1m cable	
1990023703S000	98	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	ì		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)	i i	
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)	2 (P15-16)		
FKI-9516F-2GMX-AF*	14 (P1-14)	. ,	2 (P15-16)		

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