EKI-8528-4XF / EKI-8528-4XFL

Industrial L3/L2 Full Gigabit Modular with 4x10G SFP+ Managed Ethernet Switch



Features

- IEC 61850-3 Edition 2 certified for reliable substation performance
- Certified to IEC 62443-4-2 SL2
- 3 x 8 Gigabit ports module slots + 4 x 10G SFP+ ports
- VRRP, RIPv1/v2, OSPFv2/v3, PIM and NAT supported (EKI-8528-4XF only)
- TSN and 1588v2(PTP) supported
- IEC C37.238 and IEC/IEEE 61850-9-3 power profiles supported
- Redundancy: X-Ring Pro (< 20ms @250units), G.8032 ERPS, STP/RSTP/MSTP
- Management: SNMP v1/v2c/v3, WEB, Telnet, standard MIB, private MIB
- Wide operating temperature range of -40~85°C
- Dual power module slot options for 110/220V_{AC}/V_{DC} or 24/48V_{DC} input
- IEC 62439-3 Clause 4 (PRP) and Clause 5 (HSR) compliant

Introduction

The EKI-8528 series is a 19" rackmount L3/L2 modular managed switch engineered as a power-plant-grade solution for mission-critical networks. Providing up to 24 Gigabit ports and 4x10GbE uplinks, this high-performance switch supports advanced routing protocols (OSPF, VRRP, PIM) with a 4.5K routing table to ensure seamless data exchange across large industrial infrastructures.

Built for harsh power utility environments, it features heavy industrial hardware with superior EMC resistance against extreme electrical noise and temperature fluctuations. Addressing critical OT security, the series is fully compliant with the IEC 62443-4-2 cyber security standard, delivering robust component-level protection, enhanced authentication, and access control to safeguard infrastructure from cyber threats.

Featuring flexible Ethernet (RJ45/SFP) and redundant power modules, the EKI-8528 provides exceptional modular versatility. It acts as a highly secure, resilient backbone engineered for demanding environments, including IEC 61850-3/IEEE 1613 power substations, renewable energy sites, and mission-critical data centers.

Specifications

Interface

- **Ethernet port** 3 x 8 port module slots*
- **Console port** RJ45 (RS-232)
- **Relay output** 2-pin Terminal Block
- **Power Connection** 2 x Power supply module slots*
- **USB port** Type A

* Please refer to the accessory list for details on the interface and power modules.

LED Display

- **System LEDs** PWR1, PWR2, SYS, Alarm
- **Port LED** Link Speed, link/ Act

Switch Properties

- **DRAM** 256MB
- **Flash** 128MB
- **Switching capacity** 128 Gbps
- **Forwarding rate** 95 Mpps
- **Max. IGMP Group** 1024
- **Max static VLANs** 256
- **VLAN ID range** 1-4094
- **MAC table** 32K
- **Jumbo frame** 10KB
- **Packet Buffer** 32Mbits
- **Max Priority Queues** 8

Physical

- **Enclosure** Metal shell and die-casting
- **Protection Class** IP 30
- **Installation** 1U 19" Rackmount
- **Dimensions(WxHxD)** 438 x 44 x 363.5mm (17.24" x 1.73" x 14.31")
- **Weight** 5.5 kg

Environment

- **Operating Temperature** -40 to 85°C with full 28×Gigabit port operation
  -40 to 75°C with 24×Gigabit + 4×10G SFP+ port operation
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Ambient Relative Humidity** 5 ~ 95% (non-condensing)

Power

- **System Power Consumption** 75 Watts(Max)
- **Input Voltage** High Voltage module: 110/220 V_{AC}/V_{DC}
  Low Vlotage module: 24/48 V_{DC}
- **Over current Protection** Supported
- **Reverse Polarity Protection** Supported

* Please refer to accessory list for detail on the power modules.

Switch Standards

- **IEEE 802.3 for 10BaseT**
- **IEEE 802.3u for 100BaseT(X) and 100BaseFX**
- **IEEE 802.3ab for 1000BaseT(X)**
- **IEEE 802.3z for 1000BaseSX/LX/LHX/ZX**
- **IEEE802.3ae for 10GBase over Fiber**
- **IEEE 802.3x for flow control**
- **IEEE 802.1D-2004 for Spanning Tree Protocol**
- **IEEE 802.1w for Rapid Spanning Tree Protocol**
- **IEEE 802.1s for Multiple Spanning Tree Protocol**
- **IEEE 802.1p for Class of Service**
- **IEEE 802.1Q for VLAN Tagging**
- **IEEE 802.1X for authentication**
- **IEEE 802.3ad for Port Trunk with LACP**

Certification

- **Safety** EN62368
- **EMI** CISPR 22, 32, FCC Part 15B Class A
- **EMS** EN61000-4-2 (ESD); EN61000-4-3 (RS); EN61000-4-4 (EFT); EN61000-4-5 (Surge); EN61000-4-6 (CS), EN61000-4-6(CS), EN-61000-4-8 (PFMF)
- **Shock** IEC60068-2-27
- **Freefall** IEC60068-2-32
- **Vibration** IEC60068-2-6
- **Substation** IEC61850-3, IEEE1613
- **Railway** EN50121-4
- **Cybersecurity** IEC 62443-4-1, IEC 62443-4-2

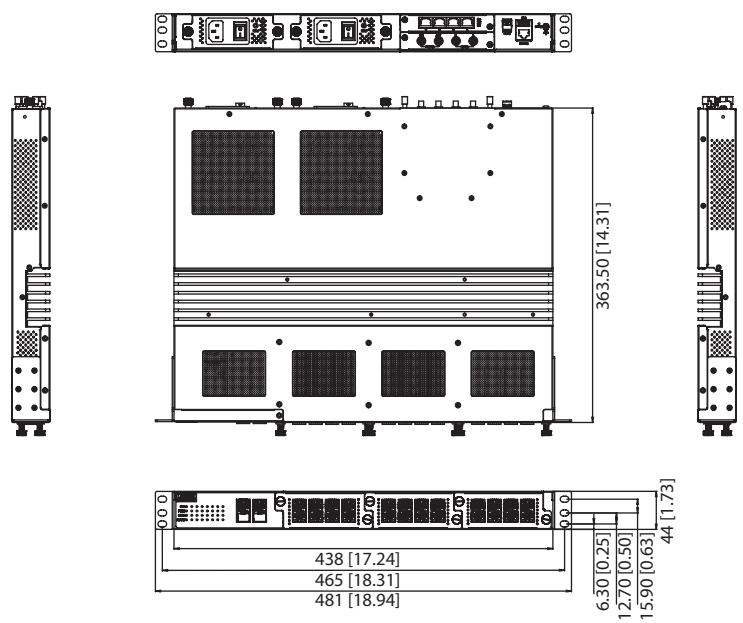
L2 Features

- **Link Aggregate** Static Trunk, 802.3ad LACP
- **VLAN** 802.1Q Tag-based, 802.1v Protocol-based VLAN, 802.1ad VLAN stacking, GVRP, GMRP, MAC/IP subnet/Private/Voice VLAN
- **Port Mirroring** Per port, Multi-source port
- **IP Multicast** IGMP Snooping v1/v2/v3, MLD Snooping
- **Redundancy** IEEE 802.1D-STP, IEEE 802.1s-MSTP,IEEE 802.1w-RSTP, ITU-T G.8032 ERPS

All product specifications are subject to change without notice.
Last updated: 10-Nov-2026

Dimensions

Unit: mm



L3 Feature (EKI-8528-4XF only)

- **Routing protocol** Static Routing, RIP v1/v2, OSPFv2, VRRPv2, PIM-SM
- **Routing Table** IPv4 up to 3K, IPv6 up to 1.5K

QoS

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

Security

- **Loop detection** Port-based detection/ prevention
- **Storm Control** Broadcast, Unknown multicast, Unknown unicast
- **Port Security** Static MAC, MAC violation notice
- **Authentication** 802.1x (Port-Based, MAC-Based), RADIUS, TACACS+
- **Account Manager** Multiple Account, 0-15 User Privilege
- **IP Security** IP source guard, DHCP snooping, ARP spoofing
- **ACL** L2, L3 Access Control List

Management

- **OAM** IEEE802.1ag, Continuity Check, IEEE802.3ah, Link Monitor, Remote Loopback, Dying Gasp, Diagnostic features
- **PTP** IEEE1588v2, Boundary/ Transparent Clock
- **DHCP** Client, Server, DHCP Relay, Option 82 relay
- **Config & Access** IPv4/ IPv6, SNMP v1/v2c/v3, WEB GUI, Telnet, RMON, SSH 2.0, SSL(TLSv1)
  Standard MIB, Private MIB
- **Upgrade/ Backup** TFTP, HTTP, Dual firmware image
- **Others** NTP client, DNS client, Syslog

Power Substation

- **IEC 61850** GOOSE QoS, SMV QoS, IEC C37.238 and IEC/IEEE 61850-9-3 Power Profile, MMS

TSN

- **Standardized Real-Time Ethernet** Time Sensitive Networks (TSN), IEEE 802.1AS, IEEE 802.1Qci, IEEE 802.1CB, IEEE 802.1Qbv, IEEE 802.1Qbu, IEEE 802.3br

Accessories (Need to be ordered separately)

Ethernet Modules

	Part Number	Description
	EKI-ME08-8GF-A	Gigabit SFP Module with 8 x 100/1000Base SFP ports
	EKI-ME08-8GT-A	Gigabit Ethernet Module with 8 x 10/100/1000BaseTX ports

Power Supply Modules

	Part Number	Description
	EKI-MP01-ACO-A	High Voltage Power Supply Input Voltage: 110/220 V_{AC}/V_{DC} Operating Voltage: 90-264 V_{AC} or 88-370 V_{DC}
	EKI-MP01-DC-A	Low Voltage Power Supply Inout Voltage: 24/48 V_{DC} Operating Voltage: 24 to 48 V_{DC}

IIoT Modules

	Part Number	Description
	EKI-MI01-PRP-A	HSR/PRP module with 2 x 100/1000Base SFP ports (for HSR/PRP) and 1 x 10/100/1000Base-TX interlink port

Ordering Information

Part Number	Software	1000/10G Base SFP+ Ports	100/1000 Base SFP ports	10/100/1000 BaseTX Ports	Note
EKI-8528-4XF-A	Layer 3	4	Up to 24	Up to 24	Ethernet and Power supply module need to be ordered separately.
EKI-8528-4XFL-A	Layer 2				

SFP Transceiver Compatibility List for the EKI-8528 Series

Industrial Grade 1.25 Gbps SFP Modules

Part Number	Optical Mode	Fiber Cable Type	Typical Distance	Optical Connector	Operating Temp.	DDM
SFP-GMM-550	Multi-mode	OM1/OM2	550 m	Duplex LC	-40 to +85 °C (-40 to +185 °F)	Yes
SFP-GMM-2K	Multi-mode	Multi-Mode	2 km	Duplex LC		
SFP-GSM-20K	Single-mode	G.652	20 km	Duplex LC		
SFP-GSM3-40K	Single-mode	G.652	40 km	Duplex LC		
SFP-GZX-LCI-80E	Single-mode	G.652	80 km	Duplex LC		
SFP-GSS-40KTX-LC	Bi-Directional	G.652	40 km	Simplex LC		
SFP-GSS-40KRX-LC	Bi-Directional	G.652	40 km	Simplex LC		
SFP-GSS-20KTX	Bi-Directional	G.652	20 km	Simplex SC		
SFP-GSS-20KRX	Bi-Directional	G.652	20 km	Simplex SC		
SFP-GSS-40KTX	Bi-Directional	G.652	40 km	Simplex SC		
SFP-GSS-40KRX	Bi-Directional	G.652	40 km	Simplex SC		

Industrial Grade 100-155 Mbps SFP Modules

Part Number	Optical Mode	Fiber Cable Type	Typical Distance	Optical Connector	Operating Temp.	DDM
SFP-FMM850-2K	Multi-mode	OM1/OM2	2 km	Duplex LC	-40 to +85 °C (-40 to +185 °F)	Yes
SFP-FMM-2K	Multi-mode	OM1/OM2	2 km	Duplex LC		
SFP-FSM-20K	Single-mode	G.652	20 km	Duplex LC		
SFP-FSM-40K	Single-mode	G.652	40 km	Duplex LC		
SFP-FSS-20KTX	Bi-Directional	G.652	20 km	Simplex SC		
SFP-FSS-20KRX	Bi-Directional	G.652	20 km	Simplex SC		
SFP-FSS-40KTX	Bi-Directional	G.652	40 km	Simplex SC		
SFP-FSS-40KRX	Bi-Directional	G.652	40 km	Simplex SC		

Note: 100 Mbps is supported on SFP Port 9 only in SGMII mode.

Industrial Grade 100-155 Mbps SFP Modules with SGMII mode*

Part Number	Optical Mode	Fiber Cable Type	Typical Distance	Optical Connector	Operating Temp.	DDM
SFP-FMM-2K-SGMII	Multi-mode	OM1/OM2	2 km	Duplex LC	0 to +70 °C	Yes
SFP-FMMI-2K-SGMII	Multi-mode	OM1/OM2	2 km	Duplex LC	-40 to +85 °C	Yes
SFP-FSM-20K-SGMII	Single-mode	G.652	20 km	Duplex LC	0 to +70 °C	Yes
SFP-FSMI-15K-SGMII	Single-mode	G.652	15 km	Duplex LC	-40 to +85 °C	Yes

*The SGMII mode is used to support 100 Mbps operation on SFP Port 9.

Industrial Grade 10 Gbps SFP+ Modules

Part Number	Optical Mode	Fiber Cable Type	Typical Distance	Optical Connector	Operating Temp.	DDM
SFP-XMM-LCI-400	Multi-mode	OM3	400 m	Duplex LC	-40 to +85 °C (-40 to +185 °F)	Yes
SFP-XSM-LCI-10K	Single-mode	G.652	10 km	Duplex LC		
SFP-XSM-LCI-20K	Single-mode	G.652	20 km	Duplex LC		
SFP-XSM5-LCI-40K	Single-mode	G.652	40 km	Duplex LC		
SFP-XSM-LCI-80K	Single-mode	G.652	80 km	Single LC		
SFP-XSS-10KTX-LC	Bi-Directional	G.652	10 km	Simplex LC	0 to +70 °C (+32 to +158 °F)	Yes
SFP-XSS-10KRX-LC	Bi-Directional	G.652	10 km	Simplex LC		
SFP-XSS-40KTX-LC	Bi-Directional	G.652	40 km	Simplex LC		
SFP-XSS-40KRX-LC	Bi-Directional	G.652	40 km	Simplex LC		

Industrial Grade copper Modules

Part Number	Ethernet Speed	Typical Distance	Connector	Operating Temp.
SFP-FTX-RJ45I-AE	100 Mbps	100m	RJ-45	-40 to 85 °C (-40 to 185 °F)
SFP-GTXB	1000Mbps	100 m	RJ45	0 to 70 °C (+32 to 158 °F)
SFP-GTX*	10/100/1000Mbps	100m	RJ-45	-40 to 85 °C (-40 to 185 °F)
SFP-10GTXI	1G/2.5G/5G/10G Mbps	30m - 10G 50m- 2.5G/5G 100 m- 1G	RJ-45	-40 to +85 °C

* 10/100/1000Mbps operation required the host system to have an SGMII interface.