EKI-8510G-2FI

8G + 2G SFP Managed TSN Switch

Features IEEE 802.1AS Time Synchronization, IEEE 802.1Qbu Frame

Preemption, IEEE 802.1Qbv Time Aware Shaper and IEEE 802.1CB Seamless

PWR1, PWR2, SYS, P-Fail, P9, P10

Link / Speed / Activity

• 8 x Gigabit ports + 2 x Gigabit copper/SFP combo ports

IEEE 1588v2 PTP Precision Time Protocol

• SFP socket for easy and flexible fiber expansion

• EN 50121-4 approval for railway track sides Dual 12~48 V_{DC} power input and 1 x relay output

Management: SNMP v1/v2c/v3, WEB, Telnet, standard MIB



Introduction

The EKI-8510G-2FI is the next generation of industrial switch which supports real-time communication through Time Sensitive Networking (TSN) technology. Providing a means for determinism over Ethernet-based networks and guarantee the delivery for those critical real-time applications that require determinism.

The key features of EKI-8510G-2FI TSN switch are: Supports IEEE 1588v2 Precision Time Protocol (PTP) with time synchronization, it is possible for all devices to operate in unison and execute the operation at exactly the required point in time. With IEEE 802.1Qbu for Frame Preemption, it allows for a reduction of transmission latency for express traffic, which can preempt low priority packets. The Time Aware Shaper (TAS) which from IEEE 802.1Qbv, separates communication into fixed lengths and repeating time cycles. This requires transmission guarantees cannot be interrupted. Based on IEEE 802.1CB for Seamless Redundancy, Frame Replication and Elimination for Reliability sends duplicate copies of each frame over multiple paths which control applications that cannot tolerate packet losses.

Specifications

Communications

StandardLAN	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 10/100/1000Base-T(X), 1000Base-SX/LX/LHX/ XD/ZX/EZX	Environment - Operating Temperature - Storage Temperature - Ambient Relative Humidity - Humidity - MTBF	-40 ~ 65°C (-40 ~ 149°F) -40 ~ 85°C (-40 ~ 185°F) 10 ~ 95% (non-condensing) 10 ~ 95% (non-condensing) TBC
 Transmission Distance Transmission Speed Switch Capacity Transmission Rate 	Ethernet: Up to 100m SFP: Up to 110km (depends on SFP) Gigabit Copper: 10/100/1000 Mbps, auto-negotiation Gigabit Fiber: Up to 1000Mbps 20 Gbps 14.8 Mpps	Power Power Consumption Power Input Fault Output Overload Current Protection Revise Polarity Protection	16.6W @ 48V _{DC} (System) 12 to 48V _{DC} 1 Relay Output Present Present
Interface - I/O Port - Management Port - Console Port - Power Connector	8 x 10/100/1000BASE-T/TX RJ-45 2 x SFP (mini-GBIC) port 1 x 10/100/1000BASE-T/TX RJ-45 RS-232 (RJ45) 6-pin screw Terminal Block (including relay)	Certification - Safety - EMI - EMS	UL 62368-1 CE, FCC Class A EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5
Mechanism - Enclosure - Protection Class - Installation - Dimensions (W x H x D) - Weight	Metal Shell IP 30 Din-Rail, Wall mount 58 x 140 x 95 mm (2.28" x 5.51" x 3.74" in.) 1.4kg	 Shock Freefall Vibration Railway Track Side Patent 	EN 61000-4-6 EN 61000-4-8 IEC 60068-2-27 IEC 60068-2-32 IEC 60068-2-6 EN 50121-4 http://www.advantech.com/led

LED Indicators

Features

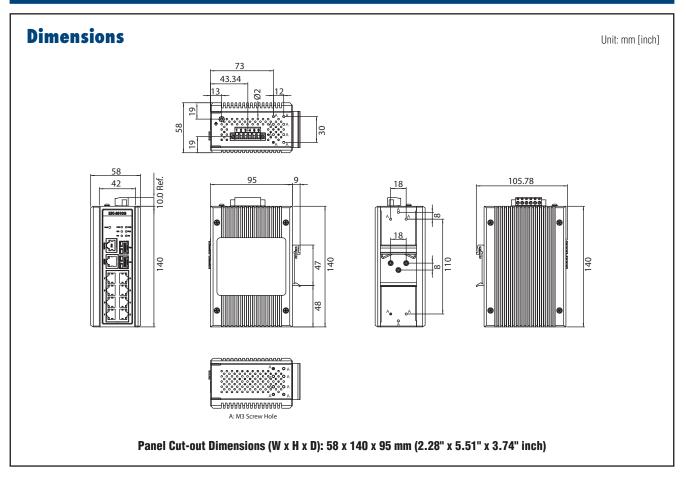
Redundancy

Svstem LED Port LED

Safety EMI EMS	UL 62368-1 CE, FCC Class A 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
Railway Track Side	EN 50121-4
Patent	http://www.advantech.com/legal/patent

AD\ANTECH Industrial Ethernet Solutions All product specifications are subject to change without notice.

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L2 Features

•	L2 MAC Address	32K •
•	Jumbo Frame	10K
•	VLAN Group	256 (VLAN ID 1 ~ 4094)
•	Packet Buffer	32 Mbit
•	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, Voice 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
•	Standardized Real-Time Ethernet	Time Sensitive Networks (TSN), IEEE 802.1AS, IEEE 802.1Qci, IEEE 802.1CB, IEEE 802.1Qbv, IEEE 802.1Qbu IEEE 802.1AS gPTP Time Precision: 1 ns IEEE 1588v2 PTP

QoS

- Priority Queue Scheduling WRR (Weighted Round Robin), SP (Strict
- Class of Service
- Rate Limiting

Security

- Port Security
- Authentication

Management

- DHCP
- Access
- Configuration
- Upload / Download
- Security Access
- Software Upgrade
- NTP

Ordering Information

EKI-8510G-2FI-A

8G + 2G SFP Managed TSN Switch w/Wide Temp.

Scheduling Priority) Hybrid Priority

Ingress Rate limit, Egress Rate limit

IEEE 802.1p Based CoS, IP TOS, DSCP based CoS

Static, Dynamic IP Source Guard, ARP Spoofing Prevention, Access Control List, DHCP Snooping,

802.1x (Port-Based, MD5 Encryption), TACACS+

DHCP Client / Server, DHCP Relay, Option 82

Configuration Backup / Restore, Dual Image

SNMP v1/v2c/v3, HTTP, HTTPS, Telnet, Standard

MIB

HTTP, TFTP, SFTP

SNTP client, NTP Client

SSH2.0, SSL