Aquam8124TSN

Layer2 24 Ports EN50155 TSN switch

Overview

Time Sensitive Networking (TSN) is a set of protocol standards developed by the IEEE 802.1 TSN Task Force. The standard defines a time-sensitive mechanism for Ethernet data transmission that adds certainty and reliability to standard Ethernet by allowing some traffic packets to be forwarded first, clearing lines using gated scheduling mechanisms and bandwidth reservation to guarantee the performance of service traffic in Ethernet to ensure that Ethernet can provide a stable and consistent level of service for the transmission of critical data.

The Aquam8124TSN series is an EN50155 managed industrial Ethernet switch designed specifically for the rail industry, support up to 24 Gigabit ports, support wall-mounting and a wide range of operable temperatures (-40°C~75°C), meeting the requirements of EN50155, EN50121 and other rail industry standards.

The Aquam8124TSN series supports Time Sensitive Network (TSN) features, the current time sensitive network base protocols include: IEEE 802.1AS Time Synchronization, IEEE 802.1Qbv Scheduled Traffic, IEEE802.1Qbu. IEEE802.1Qci, IEEE802.1CB, etc.

PoE model supports 110VDC isolated power supply and up to 8 IEEE802.3at PoE+ ports(IEEE802.3af compatible).

Key Features

Aquam8124 TSN series support up to 24 Gigabit ports, or 4 Gigabit ports + 20 100M ports, and 8 PoE ports

Supports PoE power up to 60W

Gigabit ports support X-Code M12 connectors, 100 Mports support D-Code M12 connectors

Supports Bypass function(Optional)

Supports DT-Ring, STP/RSTP/MSTP, DRP ring redundancy protocol and VRRP

Meets EN50155 and EN50121 industry standard requirements

Product Specifications

>Software Function
-TSN standard

Supports IEEE 802.1AS PTP/ IEEE 802.1Qbv/ IEEE 802.1Qbu/ IEEE 802.1Qci/ IEEE 802.1CB

-Switching

Supports VLAN, PVLAN

Supports GVRP

Supports port aggregation, LACP

Supports port flow control

Supports Rate limit based on flow (ACL Rate Limiter)

Supports Global broadcast storm suppression (QOS Storm Policing)

-Redundancy

Supports DT-Ring, DT-Ring+, DT-VLAN with the recovery time<50ms

Supports DRP/DHP with the recovery time<20ms

Supports STP/RSTP/MSTP

-Multicast

Supports IGMP snooping

Supports GMRP

Supports static multicast

Support IGMP v2/ v3

-Network Security

Supports HTTPS/SSL

Supports SSH

Supports TACACS+

Supports IEEE802.1X

Supports RADIUS

Supports User Classification

Supports MAC address binding with switch ports

-Service Quality

Supports QoS, 802.1p(CoS), DSCP

Supports SP, WRR queue scheduling

Supports ACL

-Management and Maintenance

Supports Console, Telnet, WEB management methods

Supports SNMPv1/v2c/v3, Kyvision centralized management

Supports software upgrade by SFTP/HTTP

Supports Power alarm, IP/MAC conflict alarm, Memory/CPU usage alarm, Port alarm, Ring alarm, Port traffic alarm, CRC error and packet lose alarm, SFP port RX power alarm and TX power alarm

Supports DDM (SFP port)

Supports loop detection

Supports RMON

Supports port mirroring

Supports Syslog

Supports LLDP

Supports Link-check

-IP Management

Supports DHCP server/snooping/client, DHCP Option 82

Supports ARP

-Clock Management

Supports SNTP Client

Supports PTP v2 (Hardware & Software)

>Technical Specification

-Technical Parameter

IEEE 802.3i (10Base-T)

IEEE 802.3u (100Base-T and 100Base-FX)

IEEE 802.3ab (1000Base-T)

IEEE 802.3z (1000Base-SX/LX)

IEEE 802.3ad (Link aggregation)

IEEE 802.3x (Flow control)

IEEE 802.1p (Class of Service)

IEEE 802.1Q (VLAN)

IEEE 802.1d (STP)

IEEE 802.1w (RSTP)

IEEE 802.1s (MSTP)

IEEE 802.1x (Network Access Control)

IEEE 802.1ab (LLDP)

IEEE1588 (PTP V2)

IEEE 802.1AS

IEEE 802.1Qbv

IEEE 802.1Qbu

IEEE 802.1Qci

IEEE 802.1CB

-Switch Properties

Priority Queues 8

Number of VLANs 4K

VLAN ID 1～4094

Number of Multicast Groups 8K

MAC Table 16K

Packet Buffer 1Mbit

Switching Delay <5μs

Jumbo frame 9.6KB

-Interface

Ports:

16x 10/100/1000BASE-T(X) M12 X-Code ports, 8x 10/100/1000BASE-T(X) M12 X-Code PoE ports, Supports 2 pairs Bypass(Optional);

4x 10/100/1000BASE-T(X) M12 X-code ports; 12x 10/100BASE-T(X) M12 D-code ports, 8x 10/100BASE-T(X) M12 D-Code PoE ports, Gigabit ports support Bypass(Optional);
4x 10/100/1000BASE-T(X) M12 X-Code ports, 20x 10/100BASE-T(X) M12 D-Code ports, Gigabit ports support Bypass(Optional);
Console Port: Console Port RS232 - M12 A-coded connector
Alarm Contact: M12 A-coded connector

-LED

LEDs on Front Panel
Running LED: Run
Alarm LED: Alarm
Power LED: PWR1,PWR2
Ring LED: Ring
Interface LED: Link/ACT

-Power Requirements

Power Input
110VDC - M23 connector (for switch power supply)

Power Terminal
M23 connector

Power Consumption
<40W@110VDC without PoE
<100W@110VDC with PoE

Overload Protection Support
Reverse Connection Protection Support
Redundancy Protection Support

-Physical Characteristics

Housing Metal
Cooling Natural convection, fanless
Protection Class IP40
Dimension

380mm×189mm×92.6mm (W×H×D)

Weight

4.5Kg

Mounting Panel Mounting

-Environmental Limit

Operating Temperature -40℃ ~ +75℃

Storage Temperature -40℃ ~ +85℃

Ambient Relative Humidity 5 ~ 95% (non-condensing)

-Warranty

MTBF >300000h

Warranty 5 years

-Approvals

CE/FCC

EN50121, EN45545-2

EN62368-1, EN50155、EN50121-1、EN50121-4

-Industrial Standard

EMI:

FCC CFR47 Part 15,EN55022/CISPR22,Class A

EMS:

EN50121

Machinery:

IEC60068-2-6 (vibration)

IEC60068-2-27 (shock)

IEC60068-2-32 (free fall)

Climatic environmental:

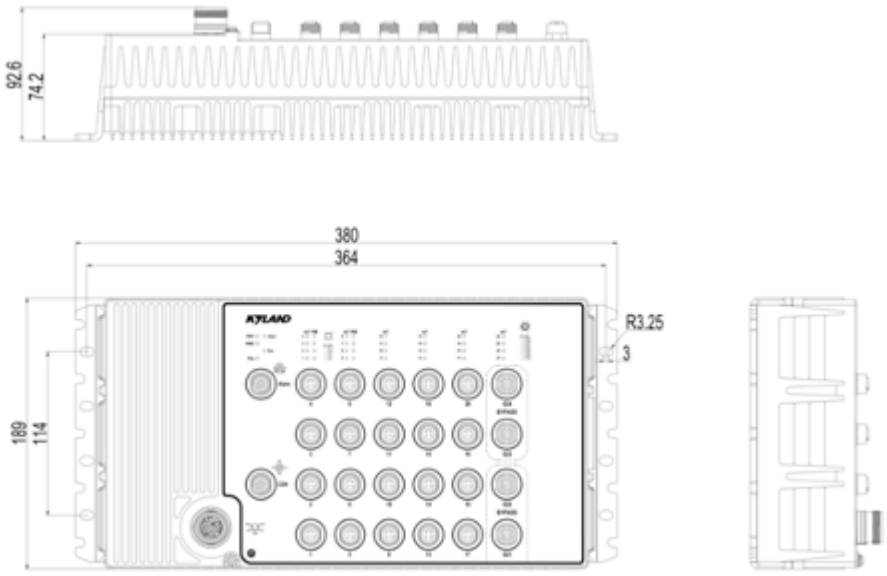
IEC60068-2-1 Cold test

IEC60068-2-2 Dry heat test

IEC60068-2-14 Change of temperature test

IEC60068-2-30 Damp heat cyclic test

Mechanical Drawing



Ordering Information

Model	Aquam8124TSN-Ports-PS1-PS2 Aquam8124TSN-B-Ports-PS1-PS2
Code Definition	Code Selection
B	Support Bypass
Ports	16GE8GP: 16x 10/100/1000BASE-T(X) M12 ports, 8x 10/100/1000BASE-T(X) M12 PoE ports; 4GE12T8P: 4x 10/100/1000BASE-T(X) M12 ports; 12x 10/100BASE-T(X) M12 ports, 8x 10/100BASE-T(X) M12 PoE ports; 4GE20T: 4x 10/100/1000BASE-T(X) M12 ports; 20x 10/100BASE-T(X) M12 ports
Power Supply	H6-H6 = 72-110VDC (50.4-137.5VDC), redundancy power supply

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