

Aquam8512A

Preliminary



8+4G/9+3G Port Layer 3 Managed EN50155 Industry Ethernet Switches

- Supports a maximum of 3 10/100/1000Base-TX and 9 10/100Base-TX ports or 4 10/100/1000Base-TX and 8 10/100Base-TX ports, and support a maximum 9 PoE ports.
- Supports X-coded M12 connector with Gigabit prots, and D-coded M12 connector with 100M ethernet ports
- Supports optional bypass function
- Supports DT-Ring protocols and RSTP/MSTP,DRP ring network redundancy protection and VRRP
- Supports Layer 3 routing protocols such as OSPF
- Complies with IEC61375 standard, supports TTDP(Train Topology Discovery Protocol)
- Complies with the requirements of EN50155 and EN50121 industrial standards
- IP65 protection class, please contact with our company if IP67 needed

» Overview

The Aquam8512A series switches, specially designed for rail industries, support up to 8 Fast Ethernet interfaces and 4 Gigabit uplink interfaces, support panel mounting, support a wide range of operation temperature(-40°C~70°C+), and meets the EN50155, EN50121 and other rail transit industry standard. The switches support IP65 and IP67 protection class to meet the requirements of dustproof and waterproof performance, and support M12 interface form to ensure the tightness and the firmness of the connection port, which especially suitable for application that are subject to high vibration and shock.

The Aquam8512A series switches support PoE function, support isolated power supply of a wide range (Power input range is up to 24VDC~110VDC), provide 9 fast Ethernet M12 ports with 9 IEEE 802.3at PoE+ (compatible with IEEE802.3af) ports, and can be used to power up to 9 IEEE 802.3at compliant powered devices (PDs), eliminating the need for additional wiring. The switches are classified as power source equipment (PSE) and provide maximum PoE power up to 30.8 watts per port and a total of 61.6 watts+ for the whole PoE port.

The Aquam8512A series switches support Layer 3 routing protocols such as OSPF, and supports IGMP protocol and PIM protocol to implement multicast routing, support DHCP protocols for automatic IP address assignment, and support DRP, DT Ring and RSTP ring network redundancy protocol for flexible networking in order to meet the market demand of railway.The switches can be widely used in PIS, CCTV, video monitoring system and train control system, also apply to any other industrial applications of harsh vibration and shock, and high EMC compatibility.

» Software Functions

Switching

- Supports VLAN,PVLAN
- Supports GVRP(pending)
- Supports port trunking
- Supports LACP(pending)
- Supports port flow control
- Supports speed limit, broadcast storm control

Redundancy

- Supports VRRP
- Supports DT-ring, DT-ring+, DT-VLAN with the recovery time<50ms
- Supports DRP, with the recovery time<20ms
- Supports RSTP/MSTP

Multicast

- Supports IGMP-snooping
- Supports GMRP
- Supports static multicast

Routing

- Supports OSPFv2
- Supports static routing
- Supports IGMP(pending)
- Supports PIM-SM, PIM-DM(pending)

Network Security

- Supports IEEE 802.1x
- Supports HTTPs/SSL, SFTP Client(pending)
- Supports SSH
- Supports RADIUS
- Supports TACACA+(pending)
- Supports user classification

Service Quality

Supports ACL
Supports 802.1p and TOS/DiffServ, Supports SP,WRR queue scheduling

Management & Maintenance

Supports Console,Telnet,WEB management methods
Supports SNMPv1/v2c/v3,Kyvison centralized management
Supports software upgrade by FTP/TFTP
Supports RMON(pending)
Supports IP/MAC conflict alarm, power failure alarm, port alarm and ring alarm
Supports port mirroring
Supports Syslog
Supports LLDP

IP Management

Supports DHCP server/client/server option 82

Clock Management

Supports SNTP Client

Characteristic Function

Supports bypass power failure bypass function
Supports TTDP protocol(pending)
Supports R-NAT(pending)
Supports Auto-Backup and Configuration(pending)

Technical Specification

Technical Parameters

- Standard IEEE 802.3i(10Base-T)
- ▼ IEEE 802.3i(10Base-T)
- ▼ IEEE 802.3u(100Base-TX)
- ▼ IEEE 802.3ab(1000Base-T)
- ▼ IEEE 802.3x(Flow control)
- ▼ IEEE 802.1p(Class of Service)
- ▼ IEEE 802.1Q(VLAN)
- ▼ IEEE 802.1s(MATP)
- ▼ IEEE 802.1w(RSTP)
- ▼ IEEE 802.1X
- ▼ IEC 61375-2-5

Switch Properties

Priority Queues	8
Number of VLANs	41k
VLAN ID	1-4093
Number of Multicast Groups	256
Routing Table	8K
MAC Table	16K
Packet Buffer	4Mbit
Packet Forwarding Rate	7.1Mpps
Switching Delay	<10us

Interface

- Gigabit Port
 - ▼ 10/100/1000Base-T(X), M12 connector
- Fast Ethernet Port
 - ▼ 10/100Base-T(X), M12 connector
- Console Port RS232, M12 connector
- USB M12 connector

LED

- LEDs on Front Panel
 - ▼ Running LED: Run
 - ▼ Alarm LED: Alarm
 - ▼ Power LED: PWR1,PWR
 - ▼ Interface LED: Link/ACT
 - ▼ POE LED: ACT(POE models only)

Power Requirements

- Power Input
 - ▼ Non-PoE models: 24VDC, 48VDC, 72-110VDC
 - ▼ PoE models: 24-110VDC
- PoE models: 24-110VDC(16.8-154VDC)
- Power Terminal M12-4pin connector
- Power Consumption < 18 W (non-PoE models)
< 108W (PoE models)
- Overload Protection Support
- Reverse Connection Protection Support
- Redundancy Protection Support

Physical Characteristics

- Housing Metal
- cooling Nature cooling, fanless
- Protection Class IP67
- Dimensions 100mm×142.3mm×111.7mm(H×W×D)
- Weight <2Kg
- Mounting panel mounting

Environmental Limits

- Operating Temperature -40°C to +70°C
- Storage Temperature -40°C to +85°C
- Ambient Relative Humidity 5 ~ 95% (non-condensing)

Warranty

- MTBF 764615h
- Warranty Period 5 years

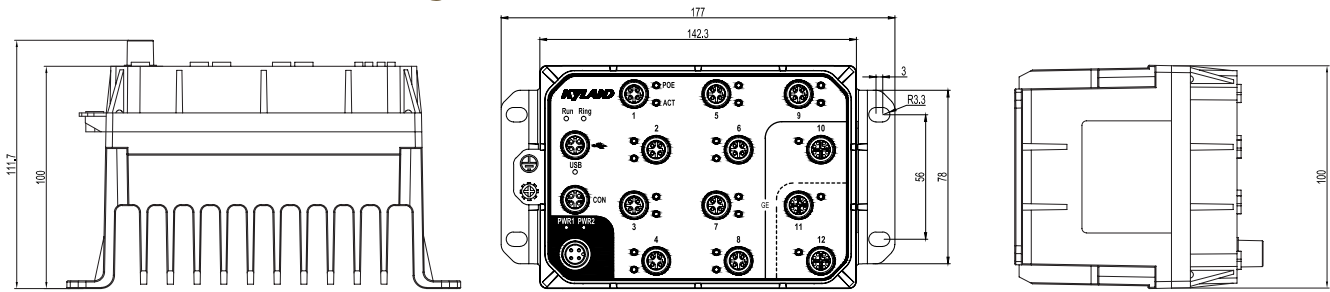
Approvals

CE(pending),LVD(pending),EN50155(pending),EN50121(pending), EN45545(pending)
For the latest information, please visit the website of Kyland

Industry Standard

- EMI
 - ▼ FCC CFR47 Part 15,EN55022/CISPR22,Class A
- EMS
 - ▼ IEC61000-4-2 (ESD) ±6kV (contact), ±8kV (air)
 - ▼ IEC61000-4-3 (RS) 20V/m (80MHz-2GHz)
 - ▼ IEC61000-4-4 (EFT) Power Port: ±2kV; Data Port: ±2kV
 - ▼ IEC61000-4-5 (Surge) Power Port: ±1kV/DM, ±2kV/CM
 - ▼ IEC61000-4-6 (CS) 10V (150kHz-80MHz)
 - ▼ IEC61000-4-8(Power frequency magnetic field)50Hz 100A/m
 - ▼ IEC61000-4-9(Pulsed magnetic field)300A/m
 - ▼ IEC61000-4-29 (Voltage Short interruptions) 10ms 100%
- Safety
 - ▼ EN60950-1
- Machinery
 - ▼ IEC61373 (Vibration and Shock)
 - ▼ IEC60068-2-32 (Free Fall)

» Mechanical Drawing



» Ordering Information

Aquam8512A-Ports-PS1-PS2

Ports

3GE9T	3 X 10/100/1000BASE-T(X) M12 port; 9 X 10/100BASE-T(X) M12 port;
4GE8T	4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 port;
3GE9P	3 X 10/100/1000BASE-T(X) M12 port; 9 X 10/100BASE-T(X) M12 PoE port;(pending)
4GE8P	4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 PoE port; (pending)
9T	9 X 10/100BASE-T(X) M12 port;
9P	9 X 10/100BASE-T(X) M12 PoE port; (pending)

Aquam8012A-B-Ports-PS1-PS2

B:

4GE models Gigabit ports support two pair of Bypass function;
3GE models Gigabit ports support a pair of Bypass function;

Ports

Non PoE models

3GE9T	3 X 10/100/1000BASE-T(X) M12 port; 9 X 10/100BASE-T(X) M12 port;
4GE8T	4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 port;
3GE9P	4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 port; (pending)
4GE8P	4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 PoE port; (pending)

PS1-PS2 (Power Supply)

Non PoE models

H6-H6	72-110VDC, redundant power input
L14-14	48VDC, redundant power input
L13-L13	24VDC, redundant power input

PoE models

WV-WV	24-110VDC, redundant power input(pending)
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» Accessories

Accessory Model	Description	Note
M12-A-4P-F	Female cable connector with M12, A-Coding, 4 Pin	Power interface Connector
M12-A-4P-M	Male cable connector with M12, A-Coding, 4 Pin	Console or USB interface Connector
M12-D-4P-M	Male cable connector with M12, D-Coding, 4 Pin	10/100/1000Base-TX interface Connector
M12-X-8P-M	Male cable connector with M12, X-Coding, 8 Pin	10/100/1000Base-TX Connector
DT-XL-PWR-M12-XXX-3m	3m connecting line with M12 connector for power ports (from M12 to the exposed end)	Power cable with M12 connector