Aquam8012A

8+4G/9+3G Port Layer 2 Managed EN50155 Industry Ethernet Switches

Preliminary

- 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.
- Support optical Bypass function
- Supports the selection of POE models and non-POE models
- POE supports IEEE802.3af and IEEE802.3at standards, as well as a maximum of 9 POE ports
- Supports M12 connectors for power port and interface ports
- Supports DRP protocols and RSTP ring network redundancy protection
- Supports rapid configuration and backup
- Complies with the requirements of EN50155 and EN50121 industrial standards
- IP65 protection class , please contact with our company if IP67 needed.

Overview

The Aquam8012A 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 Aquam8012A 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.

Aquam8012A series Ethernet switches 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,GVRP
Supports port trunking
Supports LACP(pending)
Supports port flow control
Supports speed limit, broadcast storm control

Redundancy

Supports DRP, with the recovery time<20ms
Supports STP/RSTP/MSTP
DT-Ring/DT-Ring+

Multicast

Supports IGMP-snooping
Supports static multicast
Supports GMRP(pending)

Network Security

Supports MAC address binding with switch ports(pending)
Supports user classification
Supports IEEE 802.1x(pending)
Supports TACACA+(pending)
Supports RADIUS(pending)
Supports HTTPs, SFTP client(pending)
Supports SSH(pending)

Service Quality

Supports ACL
Supports SP,WRR queue scheduling

Management & Maintenance

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

IP Management

Supports DHCP server/ client/snooping option 82

Clock Management

Supports SNTP Client

Characteristic Function

Supports power failure bypass function
Supports Auto-Configuration Backup(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 802.3at(PoE plus)
▼ IEEE 802.3af(PoE)
▼ IEEE 802.3x(Flow control)
▼ IEEE 802.1p(Class of Service)
▼ IEEE 802.1Q(VLAN)
▼ IEEE 802.1w(RSTP)
▼ IEEE 802.1X

Switch Properties

Priority Queues	8
Number of VLANs	4094
VLAN ID	1–4094
Number of Multicast Groups	1024
MAC Table	8K
Packet Buffer	2Mbit
Packet Forwarding Rate	7.1Mpps
Switching Delay	<10us

Interface

Gigabit Port
▼ 10/100/1000Base-T(X),M12 X-coded connector
Fast Ethernet Port
▼ 10/100Base-T(X),M12 D-coded 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

Power Terminal	M12-4pin connector
Power Consumption	< 13W (non-PoE models)
	< 101W (PoE models)
Overload Protection	Support
Reverse Connection Protection	Support
Redundancy Protection	Support

Physical Characteristics

Housing	Metal
cooling	Nature cooling,fanless
Protection Class	IP65
Dimensions	100mm×142.3mm×111.7mm(H×W×D)
Weight	<2Kg
Mounting	panel mounting

Environmental Limits

Operating Temperature	-40℃ to +75℃
Storage Temperature	-40℃ to +85℃
Ambient Relative Humidity	5 - 95% (non-condensing)

Warranty

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MTBF	733606h
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
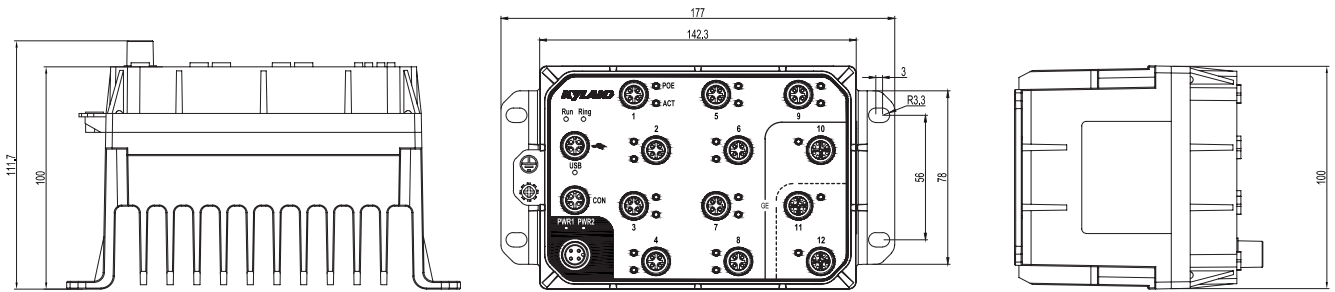
Ordering Information

	Aquam8012A-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;
4GE8P	4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 PoE port;
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

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