

Aquam8012A

8+4G/9+3G port layer 2 managed PoE IP65/67 EN50155 switches



» 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 to 75°C), and meets the EN50155, EN50121 and other rail transit industry standard. The switches support 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 watts per port and a total of 60 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.

» Key Features

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

IP67 protection class

Product Specifications

>Software Functions

-Switching

Supports VLAN,PVLAN,GVRP

Supports port trunking

Supports LACP

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

-Network Security

Supports MAC address binding with switch ports

Supports user classification

Supports IEEE 802.1x

Supports TACACS+

Supports RADIUS

Supports HTTPs/SSL, SFTP client

Supports SSH

-Service Quality

Supports ACL

Supports SP,WRR queue scheduling

-Management and Maintenance

Supports Console,Telnet,WEB management methods

Supports SNMPv1/v2c/v3,Kyvison centralized management

Supports RMON

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 Parameter

-Standard

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 4K

VLAN ID 1-4093

Number of Multicast Groups 64

MAC Table 8K

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 D-coded connector

Console Port RS232, M12 connector

USB M12 connector

-LED

LEDs on Front Panel

Running LED: Run

Power LED: PWR1,PWR

Interface LED: Link/ACT

POE LED: ACT(POE models only)

USB LED: USB

-Power Requirements

Power Input

Non-PoE models: 24VDC, 48VDC, 110VDC

PoE models: 24-110VDC

Power Terminal M12-4pin connector

Power Consumption

Non-PoE models: <12W without PoE

PoE models: <80W with 60W PoE

Overload Protection Support

Reverse Connection Protection Support

Redundancy Protection Support

-Physical Characteristics

Housing Metal

cooling Nature cooling, fanless

Protection Class IP67

Dimensions 142mm×100mm×110mm(H×W×D)

Weight <2Kg

Mounting panel mounting

-Environmental Limits

Operating Temperature -40 to +75°C

Storage Temperature -40 to +85°C

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

-Warranty

MTBF 733606h

Warranty Period 5 years

-Approvals

CE, FCC, EN50121, EN50155, EN45545, EN60950

-Industrial Standard

EMI

FCC CFR47 Part 15, EN55022/CISPR22, Class A

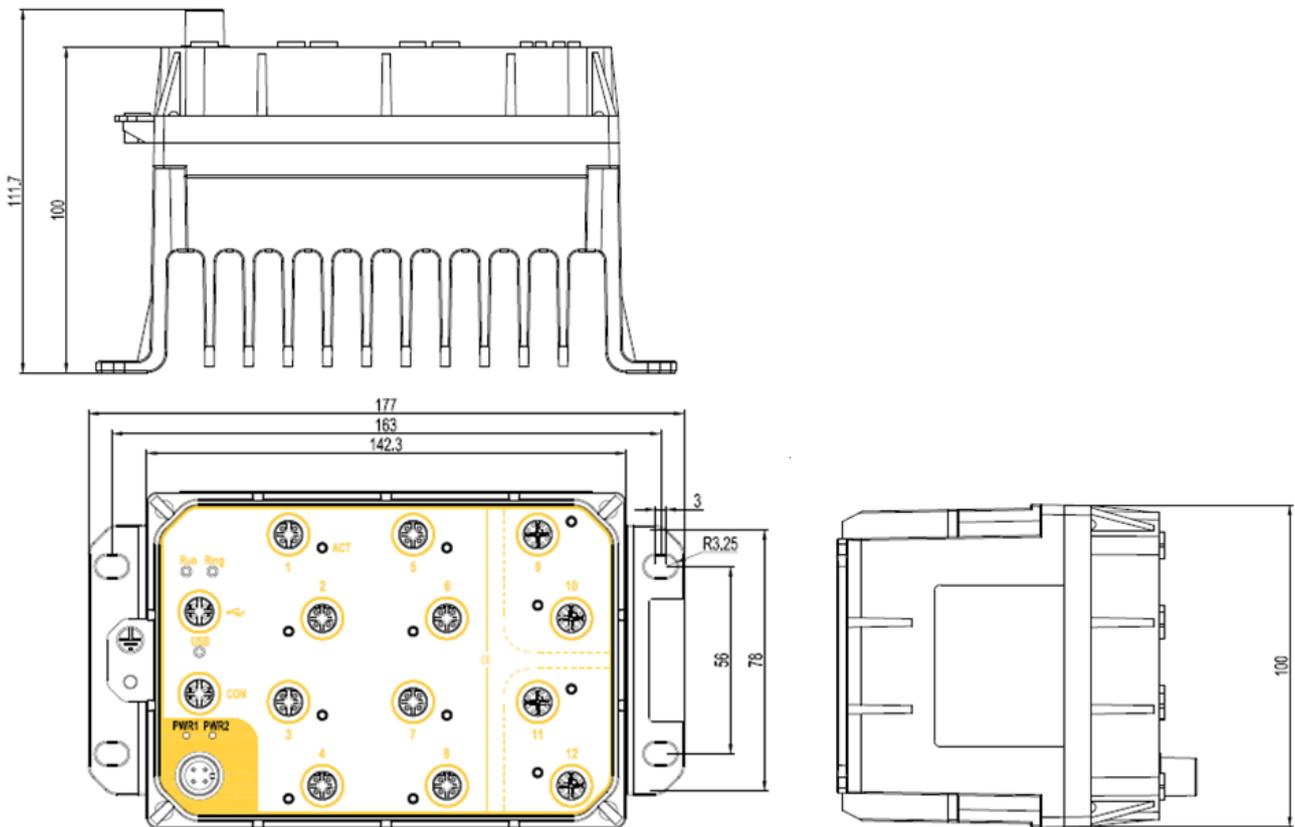
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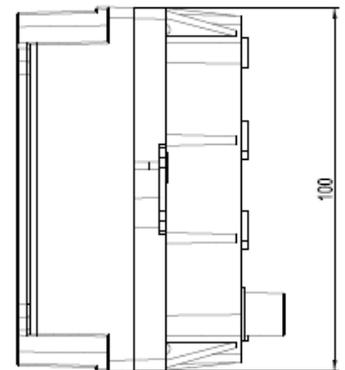
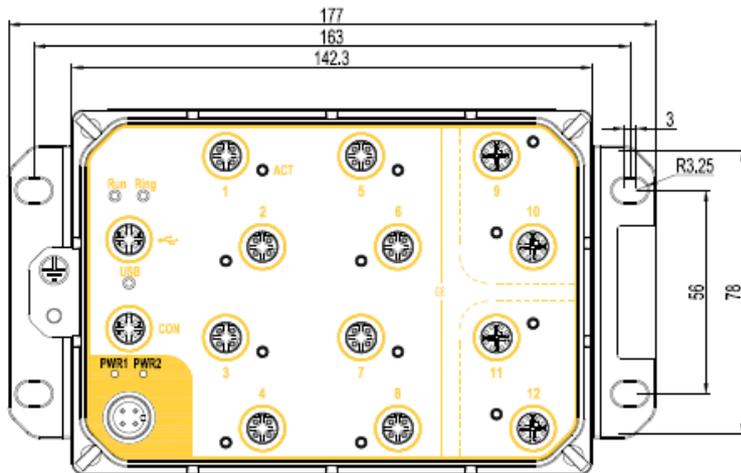
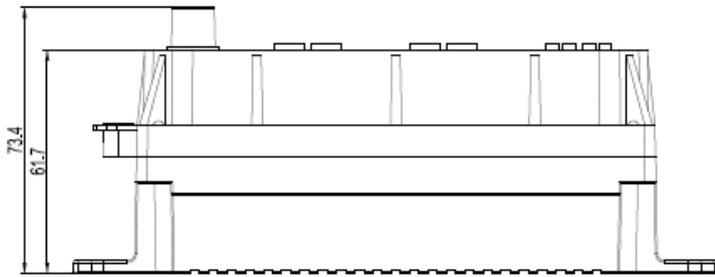
IEC61000-4-2 (ESD) ±6kV (contact), ±8kV (air)

IEC61000-4-3 (RS) 20V/m (80MHz-2GHz)

- IEC61000-4-4 (EFT) Power Port: $\pm 2\text{kV}$; Data Port: $\pm 2\text{kV}$
- IEC61000-4-5 (Surge) Power Port: $\pm 1\text{kV/DM}$, $\pm 2\text{kV/CM}$
- 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

Models with cooling fin

Product Model Aquam8012A-Ports-PS1-PS2

Code Definition Ordering Codes

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;
- 4GE8P=4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 PoE port;
- 9T=9 X 10/100BASE-T(X) M12 port;
- 9P=9 X 10/100BASE-T(X) M12 PoE port;

Product Model Aquam8012A-B-Ports-PS1-PS2

B:

- 4x 1000M ports support 2 pairs of Bypass function for Models with gigabit ports;
- 3x 1000M ports support 1 pair of Bypass function for Models with gigabit ports;

| | |
|-----------------------|--|
| 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; 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 : H6-H6=72-110VDC(50.4-137.5VDC),redundant inputs L14-L14=48VDC(33.6-60VDC),redundant inputs L13-L13=24VDC(16.8-30VDC),redundant inputs PoE : WV-WV=24-110VDC(16.8-154VDC),redundant inputs |

Models without cooling fin

Product Model Aquam8012A-Ports-PS1-PS2-LV

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|--------|--|
| 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; 9T=9 X 10/100BASE-T(X) M12 port; |
|--------|--|

Product Model Aquam8012A-B-Ports-PS1-PS2-LV

| | |
|----|---|
| B: | 4x 1000M ports support 2 pairs of Bypass function for Models with gigabit ports; 3x 1000M ports support 1 pair of Bypass function for Models with gigabit ports; |
|----|---|

| | |
|-----------------------|--|
| 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; |
| PS1-PS2: Power Supply | H6-H6=72-110VDC(50.4-137.5VDC), redundant inputs L14-L14=48VDC(33.6-60VDC), redundant inputs L13-L13=24VDC(16.8-30VDC), redundant inputs |

Accessories

| | |
|----------------------|---|
| 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; 10/100Base-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 |