Aquam8512A

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

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℃ to 75℃), 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 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 watts per port and a total of 60 watts for the whole PoE port.

The Aquam8512A series switches support Layer 3 routing protocols such as OSPF v2.0, 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.

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.

Supports X-coded M12 connector with Gigbit 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 v2.0

Complies with IEC61375 standard, supports TTDP(Train Topology Discovery Protocol)

Complies with the requirements of EN50155 and EN50121 industrial standards

IP67 protection class

Product Specifications

>Software Functions

-Switching

Supports VLAN,PVLAN

Supports port trunking

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 OSPF v2.0

Supports static routing

Supports IGMP

Supports PIM-SM, PIM-DM

-Network Security

Supports IEEE 802.1x

Supports HTTPs/SSL, SFTP Client

Supports SSH

Supports RADIUS

Supports TACACA+

Supports user classification

-Service Quality

Supports ACL

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

-Management and Maintenance

Supports Console,Telnet,WEB management methods

Supports SNMPv1/v2c/v3,Kyvison centralized management

Supports software upgrade by FTP/TFTP

Supports RMON

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 TTDP protocol(pending)

Supports R-NAT(pending)

Supports Auto-Configuration Backup(pending)

>Technical Parameter

-Standard

IEEE 802.3i(10Base-T)

IEEE 802.3u(100Base-TX)

IEEE 802.3ab(1000Base-T)

IEEE 802.3x(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 4K

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, 110VDC

PoE models: 24-110VDC

Power Terminal M12-4pin connector

Power Consumption < 16 W (non-PoE models)

< 80W (PoE models)

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 764615h

Warranty Period 5 years

-Approvals

CE, LVD, EN50155, EN50121, EN45545

-Industrial 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

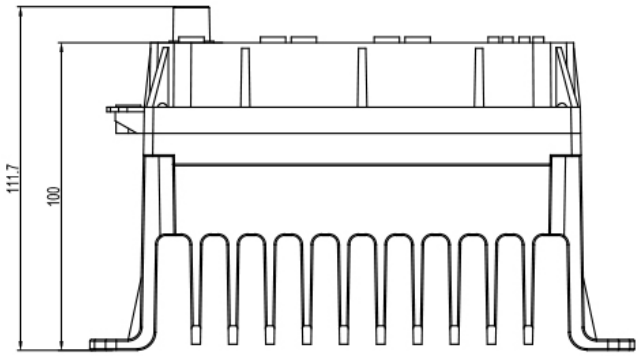
EN60950-1

Machinery

IEC61373 (Vibration and Shock)

IEC60068-2-32 (Free Fall)

Mechanical Drawing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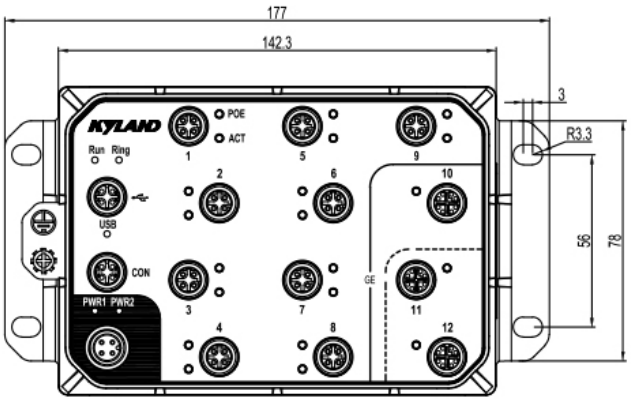
177
142.3
3
R3.3
56
78
KYLAND
POE
ACT
Run Ring
USB
CON
PWR1 PWR2
GE
1
2
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4
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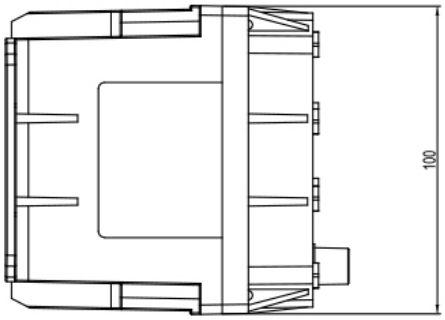
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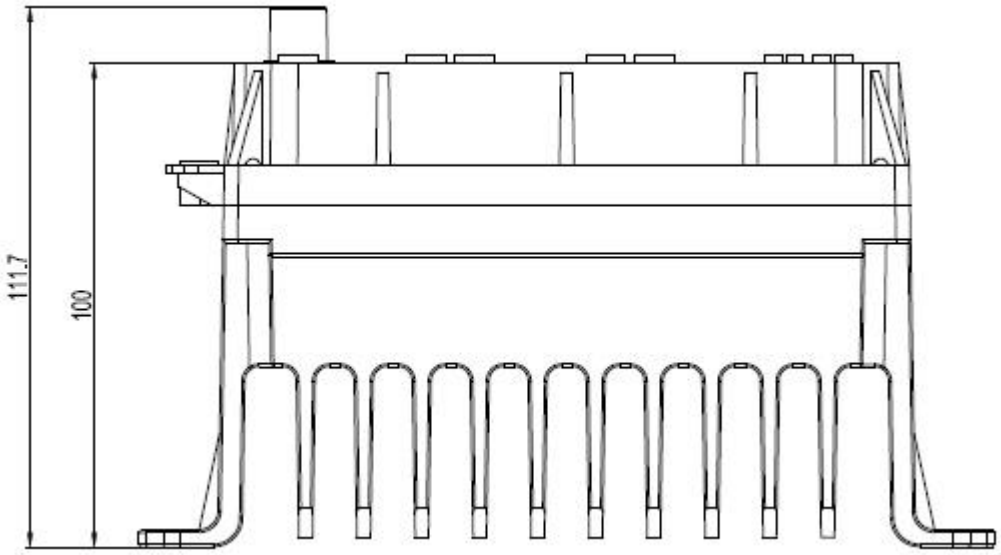
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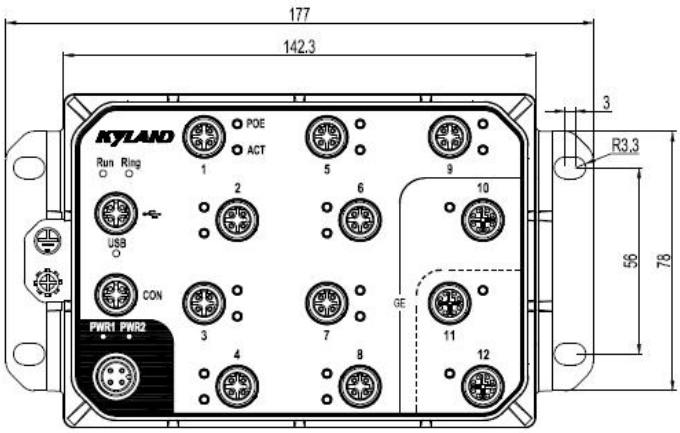

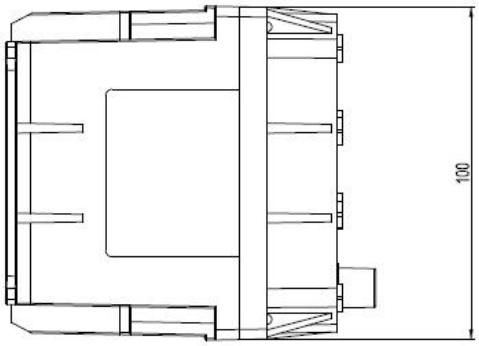

Ordering Information

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)
B-3GE9T	3GE models Gigabit ports support a pair of Bypass function; 3 X 10/100/1000BASE-T(X) M12 port; 9 X 10/100BASE-T(X) M12 port; (pending)
B-4GE8T	4GE models Gigabit ports support two pair of Bypass function; 4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 port; (pending)
B-3GE9P	3GE models Gigabit ports support a pair of Bypass function; 3 X 10/100/1000BASE-T(X) M12 port; 9 X 10/100BASE-T(X) M12 PoE port; (pending)
B-4GE8P	4GE models Gigabit ports support two pair of Bypass function; 4 X 10/100/1000BASE-T(X) M12 port; 8 X 10/100BASE-T(X) M12 PoE port; (pending)

PS1-PS2

None PoE models	
H5-H5	110VDC, redundant power input
L14-L14	48VDC, redundant power input
L13-L13	24VDC, redundant power input
PoE models	
WV-WV	24-110VDC, redundant power input(pending)

Accessories

Accessory Model	Description
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

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