

# Aquam8512A-1U



## 2G+8T/10T port Layer 3 Gigabit Managed EN50155 Industrial Ethernet Switches

- Supports 10 10/100Base-TX ports or 2 Gigabit copper ports + 8 10/100Base-TX ports
- M12 connector
- Supports DT-Ring, STP/RSTP/MSTP, DRP ring protocol and VRRP
- Supports OSPF layer 3 routing protocol
- Complies with EN50155 & EN50121

### Overview

The Aquam8512A-1U series managed rack mountable onboard M12 switches, specially designed for rail industries, support up to 2 Gigabit copper ports and 8 10/100Base-TX ports. Aquam8512A-1U supports a wide range of operation temperature from -40°C to +75°C, and meets the EN50155, EN50121 and other rail industry standards. The switches support layer 3 routing functions like OSPF, redundant ring protocols including DRP and RSTP. They support VLAN and GVRP, flexible networking and partitioning, multicast, video multicast, and rich network management functions including SNMP. Aquam8512A-1U can be widely deployed in onboard PIS, CCTV systems, and industrial applications asking for anti-vibration and high EMC performance.

### Software functions

#### Switching Function

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

#### Redundancy Protocol

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

#### Multicast Protocol

- 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)

#### Service Quality Management

- 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,Kyvision 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 Address Management

- Supports DHCP server/client/server option 82

#### Clock Management

- Supports SNTP Client

## Product Specifications

### Technical Specifications

#### Standards

- ▼ 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 802.1X

### Switch Properties

|                            |                 |
|----------------------------|-----------------|
| Priority Queues            | 8               |
| Number of VLANs            | 4k              |
| VLAN ID                    | 1-4093          |
| Number of Multicast Groups | 256 (L2 groups) |
| Routing Table              | 3.9K            |
| MAC Table                  | 16K             |
| Packet Buffer              | 12Mbit          |
| Packet Forwarding Rate     | 7.1Mpps         |
| Switching Delay            | <10us           |

### Interface Slots

|  |                  |
|--|------------------|
| Gigabit Port                                   |                  |
| ▼ 10/100/1000Base-T(X), M12 connector (X-code) |                  |
| Fast Ethernet Port                             |                  |
| ▼ 10/100Base-T(X), M12 connector (D-code)      |                  |
| Console Port                                   | RS232, RJ45 port |

### LED

- LED on front panel
- ▼ Running LED: Run
  - ▼ Ring LED: Ring
  - ▼ Power LED: PWR1, PWR2
  - ▼ Interface LED: Link/ACT

### Power Requirements

|                               |                       |
|-------------------------------|-----------------------|
| Power input                   | 110VDC(77-110VDC)     |
| Power Terminal                | 5-pin 5.08 mm-spacing |
| Power Consumption             | < 20W                 |
| Overload Protection           | Support               |
| Reverse Connection Protection | Support               |
| Redundancy Protection         | Support               |

### Physical Characteristics

|                  |                         |
|------------------|-------------------------|
| Housing          | Metal                   |
| Cooling          | Nature cooling, fanless |
| Protection Class | IP40                    |
| Dimensions       | 483mmx44mmx185mm        |
| Weight           | <3kg                    |
| Mounting         | 1U rack mountable       |

### Environmental Limits

|                           |                          |
|---------------------------|--------------------------|
| Operating Temperature     | -40°C to +75°C           |
| Storage Temperature       | -40°C to +85°C           |
| Ambient Relative Humidity | 5 ~ 95% (non-condensing) |

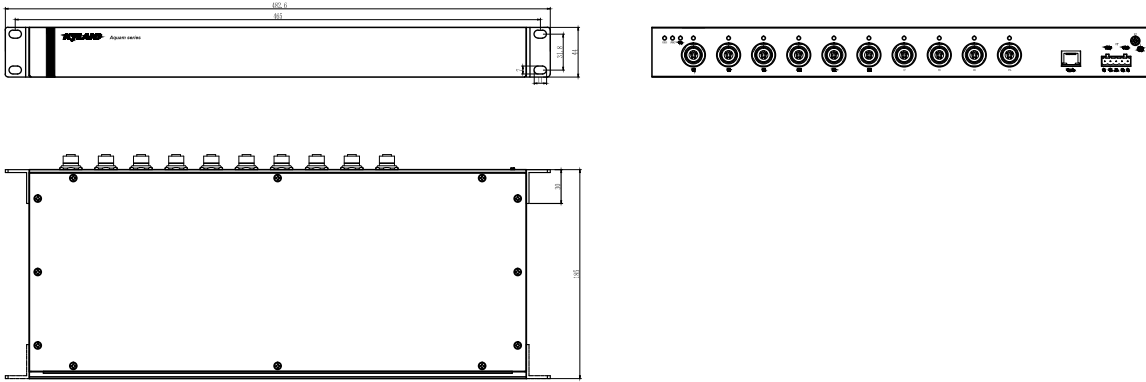
### Quality Assurance

|          |             |
|----------|-------------|
| MTBF     | 1576622 hrs |
| Warranty | 5 years     |

### 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



## Product Specifications

| Panel Mounting | Aquam8512A-Ports-PS1-PS2   |
|----------------|--|
| <b>Port</b>    |  |
| 10T            | 10 x 10/100BASE-T(X) M12 port                                    |
| 2GE8T          | 2 x 10/100/1000BASE-T(X) M12 port; 8 x 10/100BASE-T(X) M12 port; |
| <b>PS1-PS2</b> |  |
| H2-H2          | 110VDC(77-154VDC), redundant power supplies                      |