

Aquam8020

16+4G Port IP67 Managed Panel Mounting EN50155 PoE Switch



- 4 10/100/1000Base-TX ports with M12 connector and 16 10/100Base-TX ports with M12 connector
- Supports 802.3at PoE function with up to 30W power output per port
- Supports DT-Ring protocols and RSTP
- EMC performance reaches industrial level 4
- IP67 protection class
- Specially designed for rail transit transportation compliant with EN50155 & EN50121



Overview

The Aquam8020 series IP67 M12 managed POE industrial Ethernet switches are specially designed for rail industries. The M12 connectors ensure tight, robust connections, and guarantee reliable operation, even for applications that are subject to high vibration and shock. The Aquam8020 series Ethernet switches provide 16 fast Ethernet M12 ports with 8 IEEE 802.3at compliant PoE+ ports and 4 Gigabit copper uplink ports. The switches are classified as power source equipment (PSE) and provide standard IEEE802.3at 48VDC PoE with up to 30 watts of power per port.

The Aquam8020 switches can be used to power up to 8 IEEE 802.3at compliant powered devices (PDs), eliminating the need for additional wiring. The switches support IP67 protection class with an operating temperature range of -40 to 75°C. The Aquam8020 switches are compliant with EN50155, EN55022 Class A&B and FCC CFR47 Part 15, making them suitable for a variety of industrial applications.

Features & Benefits

1. Redundancy Technology: supports DT-Ring protocols (recovery time<50ms) and RSTP
2. Multicast Protocol: supports IGMP Snooping and static multicast
3. Network Partition: supports VLAN, GVRP, PVLAN
4. Service Quality: supports QoS
5. Bandwidth Management: supports port trunking, port speed limit, broadcast storm control
6. Network Management and Monitoring: supports CLI, Telnet, WEB management methods, Kyvision centralized management, SNMPv1/v2/v3, RMON, LLDP, STMP, DHCP Option 82 & Snooping, DHCP client
7. Network Security: supports MAC address binding with port, IEEE802.1X, SSH, SSL, TACACS+
8. Device Management: supports FTP upgrade

9. Device Maintenance: supports port mirroring
10. Alarm Output: supports power, port and ring alarms

Technical Specifications

Standard

- IEEE 802.3i
- IEEE 802.3ab
- IEEE802.3af
- IEEE 802.3u
- IEEE 802.3z
- IEEE 802.3x
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.1w
- IEEE 802.1X

Protocol

- DT-Ring, DT-VLAN, DT-Ring+, STP, RSTP;
- IGMP Snooping;
- VLAN, PVLAN;
- Telnet, HTTP, SNMPv1/v2/v3, RMON, LLDP, DHCP server/relay/client, STMP;
- SSH, SSL, TACACS+;
- FTP, QoS, ARP

Switch Properties

- Priority Queues: 4
- Number of VLANs: 256
- VLAN ID: 1-4094
- Number of Multicast Groups: 256
- MAC Table: 8K

Packet Buffer: 4Mbit
 Packet Forwarding Rate: 8.3Mpps
 Switching Delay: <5µs

Interface

Gigabit Ethernet Ports: 4 10/100/1000Base-TX ports with M12 connector
 Fast Ethernet Ports: max 16 10/100Base-TX ports with M12 connector and max 8 802.3at PoE+ ports
 Console Port: RS232 with M12 connector
 Alarm Contact: M12, 250VAC/350VDC Max, 120mA Max

LED

LEDs on Front Panel:
 Running LED: Run
 Alarm LED: Alarm
 Power LED: PWR1, PWR2
 PoE LED: ACT (PoE models only)
 Interface LED: Link/ACT

Transmission Distance

Twisted Pair:
 100m (Standard CAT5, CAT5e network cable)

Power Requirements

Power Input:
 Non-PoE models: 24DC(18-36VDC),48DC (36-72VDC),
 72DC/96DC/110DC(40-160VDC)
 PoE models: 48DC(36-57VDC)
 Power Terminal: M16
 Power Consumption: <25W (no PD)

Overload Protection: Support
 Reverse Connection Protection: Support
 Redundancy Protection: Support

Physical Characteristics

Housing: Metal, fanless
 Protection Class: IP67
 Dimensions (W×H×D):
 132.4×234.7×52 mm (5.21×9.24×2.05 in.)
 Weight: 2.5kg (5.51 pound)
 Mounting: Panel mounting, Din Rail mounting

Environmental Limits

Operating Temperature: -40 to 75°C (-40 to 167°F)
 Storage Temperature: -40 to 85°C (-40 to 185°F)
 Ambient Relative Humidity: 5 to 95% (non-condensing)

MTBF

393,000 hrs

Warranty

5 years

Approvals

CE, FCC

Industrial Standard

EMI:
 FCC CFR47 Part 15, EN55022/CISPR22, Class A

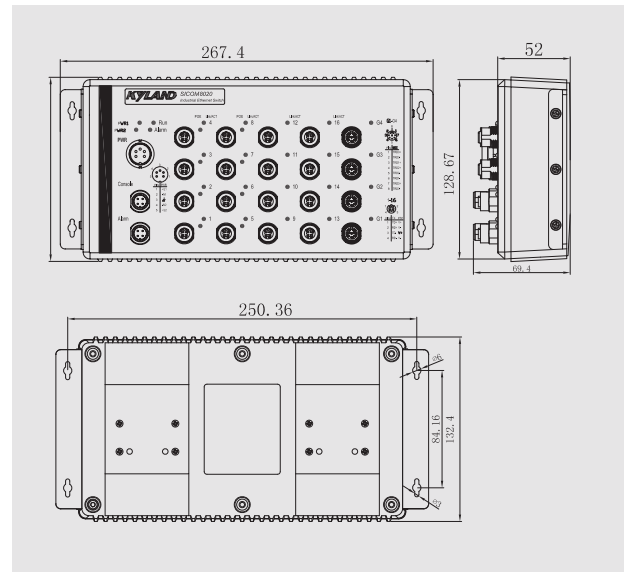
EMS:
 IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air)
 IEC61000-4-3 (RS): 10V/m (80MHz-2GHz)
 IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV
 IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV

IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz)
 IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)

Machinery:

IEC61373 (Vibration and shock)
 IEC60068-2-32 (Free Fall)
 Industry: IEC61000-6-2
 Railway: EN50155, EN50121-3-2, EN50121-4
 Traffic Control: NEMA TS-2

Mechanical Drawing



Ordering Information

Aquam8020 - _____ - _____
 Ports PS

Ports

4GE-M12-16T-M12 = 4 10/100/1000Base-TX M12 ports, 16 10/100Base-TX M12 ports, non-PoE
 2GE-M12-16T-M12 = 2 10/100/1000Base-TX M12 ports, 16 10/100Base-TX M12 ports, non-PoE
 16T-M12 = 16 10/100Base-TX M12 ports, non-PoE
 4GE-M12-16T-8P-M12 = 4 10/100/1000Base-TX M12 ports, 16 10/100Base-TX M12 ports including 8 802.3at PoE ports
 2GE-M12-16T-8P-M12 = 2 10/100/1000Base-TX M12 ports, 16 10/100Base-TX M12 ports including 8 802.3at PoE ports
 16T-8P-M12 = 16 10/100Base-TX M12 ports including 8 802.3at PoE ports

PS: Power Supply

24DC = 18-36VDC, dual redundant power inputs in M16 connector (only for non-POE models)
 48DC = 36-72VDC, dual redundant power inputs in M16 connector (only for non-POE models)
 110DC = 40-160VDC, dual redundant power inputs in M16 connector (only for non-POE models)
 48POE = 36-57VDC, dual redundant power inputs in M16 connector (only for POE models)