

# SWMDH-3016 SERIES

## RUGGEDIZED POE ETHERNET ACCESS SWITCHES



- 8 x PoE — provides 60 Watt Ultra PoE ports
- Power Budget: 240W

### Ultra PoE Switch



### PoE+ 250m

## Overview

### Lite Layer 3 Routing Features

CXR's SWMDH-3016 Series is a hardened DIN-rail mounted 16-port Gigabit switching platform. It features with 60W and IEEE 802.3at/af Power over Ethernet combining with robust management features required for mission-critical and harsh environments where sustained connectivity is crucial.

The SWMDH-3016 Series is equipped with 12 x 10/100/1000BASE-TX (8 x PoE port), in combination with 4 Gigabit SFP ports. The Ultra PoE ports provide up to 60W/port with a total power budget of 240W, making the switch truly versatile to connect with PoE Powered Devices (PD) with different bandwidth and power consumption requirements such as outdoor PTZ dome cameras, wireless access points, and way-side communication devices. The SWMDH-3016 Series is equipped with CXR's Alpha-Ring self-healing technology, providing less than 15ms fault recovery time making it ideal for applications intolerant to interruption. Users are able to access management features such as port security, IGMP snooping, port-based VLAN, GARP protocols, link aggregation and ACL, via web browser, telnet, SSH, SNMP, RMON, TFTP, and RS-232 console interfaces.

With the hardened specifications, the SWMDH-3016 Series is designed to operate at -40 to 75°C in harsh environments, where high ESD, shock, and vibration may be present.

### PoE watchdog

# Software Features

## **Management**

- Interface
  - CLI, Telnet and Web Browser
  - SNMP v1/v2c/v3
- Firmware and configuration upgrade and backup via TFTP
- Supports DHCP Server/Client
- RMON (Remote Monitoring): group 1, 2, 3, 9
- Port mirroring: TX/RX and both
- NTP (Network Time Protocol) time synchronization
- IEEE 802.1ab LLDP (Link Layer Discovery Protocol)
- IPv4/IPv6

## **Security**

- MAC address filtering
- Enable/Disable port
- Storm control (Broadcast and multicast types)
- IEEE 802.1x LAN access control
- Remote authentication through RADIUS
- SSH for CLI and Telnet security
- SSL for web security
- System log (Remote/Local)
- ACL

## **Quality of Service (QoS)**

- Priority Queues: 4 queues per port
- Traffic classification based on IEEE 802.1p CoS, DSCP, WRR (Weighted Round Robin) and strict mode
- Rate Limiting (Ingress/Egress)

## **Layer 2 Features**

- Auto-negotiation for port speed and duplex mode
  - Flow Control
  - IEEE 802.3x full duplex mode
  - Back-Pressure half duplex mode
- Redundant Protocol
  - IEEE 802.1D Spanning Tree Protocol (STP)
  - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
  - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
  - EtherWAN's Alpha-Ring network fault recovery (<15ms)
- VLANs
  - IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)
  - GVRP (GARP VLAN Registration Protocol)
  - GMRP (GARP Multicast Registration Protocol)
- Link Aggregation
  - Static Trunk (4 groups, support MAC base)
  - IEEE 802.3ad Link Aggregation Control Protocol
- IGMP Snooping
  - IGMP Snooping v1/v2/v3

## **Layer 3 Features**

- IP Packet Routing
  - Maximum number of routes in hardware: 64 entries
  - Static Routing
  - RIP v1/v2
  - OSPF v2
- Routing Redundancy
  - VRRP



# Hardware Specifications

## Technology

---

### Standards

IEEE 802.3 10BASE-T  
IEEE 802.3u 100BASE-TX/100BASE-FX  
IEEE 802.3ab 1000BASE-T  
IEEE 802.3z 1000BASE-SX/1000BASE-LX  
IEEE 802.3x Full duplex and flow control  
IEEE 802.1p QoS  
IEEE 802.1Q Tag VLANs  
IEEE 802.1w RSTP  
IEEE 802.1x Port-based Network Access Control  
IEEE 802.3af/at Power over Ethernet

### Forward and Filtering Rate

14,880pps for 10Mbps  
148,810pps for 100Mbps  
• 1,488,100pps for 1000Mbps

### Packet Buffer Memory

12M bits

### Processing Type

Store-and-Forward  
Auto Negotiation  
Half-duplex back-pressure and IEEE 802.3x full-duplex flow control  
Auto MDI/MDIX

### Jumbo Frame

9216 bytes

### Address Table Size

16K MAC addresses

## Power

---

### Input

Redundant Power Inputs: Terminal Block: 52-57VDC

### Power Consumption

Device: Max. 20W (without PoE)

### PoE Technology

Alternative A & B  
Pins 1/2(+), 3/6(-), Pins 7/8(-), 4/5(+)

### PoE Power Output

PoE can be configured as:  
6-port 15.4W PoE and 2-port 60W PoE  
8-port 30W PoE  
3. 4-port 10/100/1000-TX and 4-port 60W PoE  
4. Other PoE power level configuration can be done through firmware  
PoE Power Budget: 240W

### Protection

Reverse polarity protection

## Mechanical

---

### Casing

Aluminum Case  
IP30

### Dimensions

• 72 x 140 x 170mm (W x D x H) (2.8" x 5.5" x 6.7")

### Weight

• 1.5Kg (3.3lbs.)

### Installation

DIN-Rail



**CXR Anderson Jacobson**  
T +33 (0) 237 62 87 90  
[www.cxr-networks.com](http://www.cxr-networks.com)

Rue de l'Ornette 28410 Abondant France  
[contact@cxr.com](mailto:contact@cxr.com)  
[www.cxr-wireless.com](http://www.cxr-wireless.com)

## Hardware Specifications (suite)

### Interface

#### **Ethernet Port**

- 10/100/1000BASE-TX (PoE): 8 or 12 ports
- 1000BASE-SX/LX/SFP: 4 ports

#### **Console Port**

Port: One DB9 RS-232 port

#### **Alarm Contact**

One relay output with current 0.5A/48VDC

#### **LED Indicators**

Per Unit: Power 1, Power 2

Per PoE Port: PoE Status (Orange)

Per Port: Link/Activity (Green)

### Environment

#### **Operating Temperature**

- -40 to 75°C (-40 to 167°F)
- Tested @ -40 to 85°C (-40 to 185°F)

#### **Storage Temperature**

- -40 to 85°C (-40 to 185°F)

#### **Ambient Relative Humidity**

5% to 95% (non-condensing)

### Regulatory Approvals

#### **ISO**

Manufactured in an ISO 9001 facility

### EMI

#### **FCC Part 15B Class A VCCI Class A**

#### **EN 61000-3-2**

#### **EN 61000-3-3**

#### **EN 61000-6-4**

### EMS

#### **EN 61000-6-2**

EN 61000-4-2 (ESD Standards)

EN 61000-4-3 (Radiated RFI Standards)

EN 61000-4-4 (Burst Standards)

EN 61000-4-5 (Surge Standards)

EN 61000-4-6 (Induced RFI Standards)

EN 61000-4-8 (Magnetic Field Standards)

### Environmental Test Compliances

IEC 60068-2-6 Fc (Vibration) IEC 60068-2-27 Ea (Shock)

FED STD 101C Method 5007.1 (Free fall w/package)



**CXR Anderson Jacobson**  
T +33 (0) 237 62 87 90  
[www.cxr-networks.com](http://www.cxr-networks.com)

Rue de l'Ornette 28410 Abondant France  
[contact@cxr.com](mailto:contact@cxr.com)  
[www.cxr-wireless.com](http://www.cxr-wireless.com)

## Ordering Information

Reference	Description
SWMDH-3016-12P-4S-2D	12-Port 10/100/1000BASE-TX with 8-port PoE +4-port Gigabit SFP Hardened Managed Ethernet Switch. redundancy dual DC input isolated power supply (44~57VDC), DIN mount, -40°~75°operating
SWMDH-3016-8P-4S-2D	8-Port 10/100/1000BASE-TX with 8-port PoE +4-port Gigabit SFP Hardened Managed Ethernet Switch. redundancy dual DC input isolated power supply (44~57VDC), DIN mount, -40°~75°operating



**CXR Anderson Jacobson**  
T +33 (0) 237 62 87 90  
[www.cxr-networks.com](http://www.cxr-networks.com)

Rue de l'Ornette 28410 Abondant France  
[contact@cxr.com](mailto:contact@cxr.com)  
[www.cxr-wireless.com](http://www.cxr-wireless.com)