

# PoE Series CS-1216G-16P

16 Port 10/100/1000M Gigabit PoE+ Switch with 2 Combo Gigabit Ports



## User's Guide

### FCC Certifications

This Equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### CE Mark Warning

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class A for ITE, the essential protection requirement of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Company has an on-going policy of upgrading its products and it may be possible that information in this document is not up-to-date. Please check with your local distributors for the latest information. No part of this document can be copied or reproduced in any form without written consent from the company.

#### Trademarks:

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## Unpacking Information

Thank you for purchasing our PoE series products. Before installation, please check that your package contains the following items.

**Open the shipping cartons of the switch and carefully unpack its contents. The carton should contain the following items:**

- 1. CS-1216G-16P Main Unit x 1**
- 2. Power Code x 1**
- 3. User's Guide x 1**
- 4. 19" Rack Mount Brackets x 1**
- 5. Warranty Card x 1**



### Power Consumption

**CS-1216G-16P** 14.9 Watts

### Dimension & Weight :

**CS-1216G-16P** 441 x196 x 44 mm (19 inch) /3.13Kg

## Introduction

### Power Over Ethernet

The CERIO CS-1216G-16P is a powerful high-performance 16 port POE Gigabit switch and supports 2 combo Gigabit UTP/SFP uplink ports. The model is compliant with POE+ IEEE 802.3at and 802.3af standards, and defines new green power saving idea on the PSE Port. CS-1216G-16P bundle 400watt internal power supply. All 16 ports capable of 10/100/1000Mbps auto-negotiation operation (NWay). This means the switch could automatically negotiate with connected partners on the network speed and duplex mode.

CS-1216G-16P PoE+ Switch is designed for SMB deployment and can also be upgraded to 1U" chassis for standard rack mounting. It is ideal for micro-segmenting large network into smaller networks, connecting subnets for improved performance, and enabling the bandwidth demanded for multimedia and imaging applications. CS-1216G-16P supports a PoE power budget of 350 watt, enough to reliably power devices on all ports.

CS-1216G-16P's hardware utilizes a metal housing, making it a durable and safety PoE solution for homes and businesses. By integrating the data transmitting cable and power cord, it eliminates the hassle of constructing your network. You could easily connect Wireless AP or VoIP phone or IP Camera to this switch without looking for power outlets. Over current protection and circuit shorting protection are also supported to ensure product safety.

### Key Features

- Complying with IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE802.3ab 1000Base-T, IEEE-802.3af PoE ,IEEE802.3at PoE+
- 16port 10/100/1000Mbps TX Auto-Negotiation Ethernet Switch , supports 16 Port Gigabit PSE / PoE function, compliant with IEEE-802.3af class3 /class2/class1 and IEEE802.3at
- Supports 2 combo Gigabit UTP/SFP uplink ports and IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-SX/LX
- Supporting the power up to 30Watt /15.4Watt /7.5Watt /4Watt for each PSE/PoE port
- Internal 400 Watt power supply supports a maximum PoE power budget of 350 Watt
- Full/Half-Duplex capability on each TX port , Auto-learning networking configurations
- Supports Store & Forward architecture and performs forwarding and filtering
- Flow control: back pressure for Half-duplex and IEEE 802.3x for Full-duplex mode
- Broadcast storm control and supporting store & forward operation
- Support Jumbo Frame 9K
- Non-blocking & Non-head-of-line blocking full-wire speed forwarding
- Supports TP interface Auto MDIX function for auto TX/RX swap
- Automatic Source MAC Address Learning and Aging
- Supports up to 8K MAC addresses
- Up to 4.1M bits buffer

## Installation

Please make sure that there is proper heat dissipation from and adequate ventilation around the Switch. Do not place heavy objects on the Switch

### Desktop / Rack Installation

This switch can be easily installed on a desktop or rack and allow easy device access for connecting cables and to the power button. A minimum of 25mm around the device is recommended for product safety.

### Desktop Installation

1. Attach the Rubber feet provided with the switch to ensure minimal movement of the device
2. Keep the switch away from devices such as radios, broadband amplifiers, and other transmitters that might cause signal interferences
3. Distancing the device from moisture is also highly recommended

### Rack Installation

The CS-1216G-16P can be mounted on a standard 19" rack to allow for convenient placement and device safety. The switch is supplied with rack mounting brackets and screws for optional installation.

#### Required Mounting Materials

1. Two mounting brackets
2. 6 M3 flathead screws

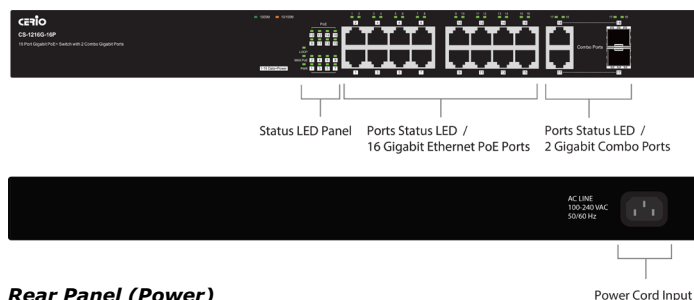
#### Mounting Procedure

1. Disconnect all cables from the device
2. Place device on a hard surface, the front of the device must be facing you.
3. Locate mounting holes on the sides of the unit
4. Install mounting brackets using M3 flathead screws on both sides of the device
5. Place unit onto the rack and secure with proper screws  
Reconnect all the cables

### Gigabit PoE Ports (Port 1~16)

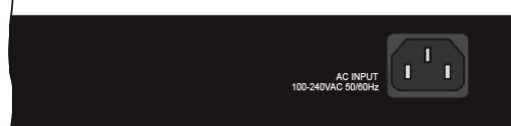
These ports are 802.3af (PoE) and 802.3at(PoE+), the PoE port will automatically activate when a compatible terminal is identified. The PoE switch will distribute power through the Gigabit ethernet ports to the connected PoE device. For devices that are not compatible, the PoE port will not supply the power to this device. This feature allows user's to freely and safely utilize the 802.3af (PoE) and 802.3at(PoE+) for Power over Lan devices on their network.

### Hardware Overview



### Rear Panel (Power)

AC input : AC input (100~240V/AC, 50~60Hz)



### LED Indicator:

Complete LED indicators displays the status of the PoE Switch and network status

The front panel LEDs provides instant status feedback, and assists to monitor and troubleshoot when required.

#### Power LED Power : (Power Indicator)

On :	Power On
Off :	Power Off

#### Loop LED Detection Loop

On :	Loop Detection happened
Off :	No Loop

#### Max Power LED Power : (PoE Alert)

On :	Over PoE Load to 320Watt or 90% Alert budget Warning
Off :	Within PoE Load to 320Watt or 90% Alert budget Warning

#### PoE LEDs (Port 1 ~ Port 16) (PoE Status)

Green :	When the PoE powered device (PD) is connected and the port distributes power successfully
Off :	When the PoE port has failed, possible reason are: PoE Power circuit shortage Power over current: over the power current of PD's classification Out of PoE voltage of 44 ~ 57 VDC output No PoE power device (PD) connected

#### LINK/ACT Status LEDs (Ports 1~16 and Combo Ports 17~18)

Amber :	10/100M Link / Act connected.
Green :	The port is 1000M Link / Act connected.
Blinking :	A valid link is established, and there is data transmitting/receiving.

## Product Specifications

### Standards & Hardware Specifications

#### Standards Conformance

IEEE 802.3i 10Base-T  
IEEE 802.3u 100Base-TX,  
IEEE802.3ab 1000Base-T  
IEEE 802.3x Flow Control  
IEEE 802.3af Power over Ethernet(POE)  
IEEE 802.at Power over Ethernet Plus (POE+)  
16port RJ-45 connectors for 10/100/1000Mbps  
(With PSE/ PoE+ function )

#### Port Configuration

2 port Gigabit Combo Ports SFP/ UTP

#### Media Access Protocol

CSMA / CA

#### Network Media

10BASE-T: UTP Cat. 3 or up, 100BASE-TX: UTP Cat. 5 or up, 1000BASE-T: UTP Cat. 5 or up

#### Transmission Method

Store and Forward

#### MAC Address Table

8K

#### Built-in Buffer

4.1M bits

#### Data Transfer Rate

10/100/1000Mbps (Half-duplex),  
20/200/2000Mbps (Full-duplex)

#### Auto MDI/MDIX

Yes

Per Port : Link/ACT Status x 16

Per Port: PoE Status x 16

Per Unit :Max. PoE : x 1 (PoE Load greater than 320Watt warning)

Per Unit : Loop x1

Per Unit : Power x1

Per Unit : Combo ports (UTP/SFP) x2

#### LED Indicators

#### Internal Bus Speed

36Gbps

### Environmental & Mechanical Characteristics

#### PoE Power Budget

54V/6.7A for 350 Watt (shared) for all PoE ports

#### Power Consumption

12V/3A for 14.9 Watt (max. with no PoE Device connected)

#### Power Type

Power cord: Internal Power supply

#### Power Requirement

AC 100~240V AC, 50-60Hz Auto-sensing

#### Operating Temperature

0° to 40° C

#### Storage Temperature

-40° to 70° C

#### Operating Humidity

10% to 90% non-condensing

#### Storage Humidity

5% to 90% non-condensing

#### Dimension (W x H x D)

441 x 196 x 44 mm

#### Unit Weight

3.13kg

#### Certification

FCC, CE, RoHS-compliant