CW-300N

eXtreme Power 11n 2.4Ghz 2x2

Ceiling / Wall PoE Access Point (500mW)

eXtreme POWER

EAN Code : 4712757153170

Supports CenOS 3.0 and CenOS4.0 Software OS

11n/bg 2.4GHz	500mW RF Power	Built-in Antennas	300Mbps 2T2R	PoE 802.3af/at	LED Control	802.1Q VLAN	x16 Control APs	Thin Access Point	Hotspot Guest Portal
Ceiling Mount	Wall Mount	IAPP SUPPORTED	Telnet w / CLI	SNMP v1/v2c/v3	MULTIPLE SSID x8	Bandwidth Control	ACL SUPPORTED	Repeater Bridge	802.1x

CW-300N eXtreme Power 11n 2.4Ghz 2x2 Ceiling / Wall PoE Access Point supports dual operating systems. Users can freely choose between CenOS 3.0 and 4.0 software cores, which contain different sets of operation modes. Devices using CenOS 3.0 can by centrally managed through CERIO's Wireless Management Software (CWMS). CenOS 4.0 devices can use integrated management functions of Control Access Point (CAP Mode) to manage an AP network.

Performance with style
features a clean, elegant industrial design
X
500mW at 2.4Ghz Output eXtreme High Power
Amplify your Wireless Network
CW-300N
eXtreme Power 11n 2.4GHz 2x2 Ceiling / Wall PoE Access Point (500mW)

CW-300N eXtreme Power 11n 2.4Ghz 2x2 Ceiling / Wall PoE Access Point is best suited for ceiling deployment to provide unimpeded signal to a room or hallway. Installation of CW-300N is simple through the provided mounting bracket, and devices can also easily be detached through the safety lock. CW-300N's mounting bracket requires a thin tool to release the safety lock, which provides device security from theft in public spaces.

Perfect for high density device environments such as offices and meeting rooms
CW-300N
eXtreme Power 11n 2.4GHz 2x2 Ceiling / Wall PoE Access Point (500mW)

The **CW-300N eXtreme Power 11n 2.4Ghz 2x2 Ceiling / Wall PoE Access Point** hardware utilizes 500mW eXtreme power and **built-in 2.4 GHz 2x2 Omni directional antennas.** CW-300N's hardware design provides an aesthetically pleasing device that maintains a level of class and luxury in all deployment environments. The software smartly includes LED light control functions, allowing administrators to turn on/off the blinking LEDs. This is ideal for hotel deployment, where hotel guest comfort is the top priority. CW-300N's 500mW High Power design also supports 12V DC power input as well as 802.3af/at Power over Ethernet standards. PoE reduces the cabling required for deploying CW-300N in ceiling environments, which ultimately provides conveniences and maintains décor.

CenOS 3.0 Software Introduction:

CERIO's GS Firmware uses the CenOS 3.0 core software built-in . The firmware's main functions are Wifi application for Pure WiFi Access Point (Includes AP+WDS) and Point to Multi Point WiFi Bridge and Bridge + Repeater Extension WiFi AP functions.

The CenOS 3.0 core's operational mode supports Pure AP with WDS Mode / Client Bridge + Universal Repeater mode. The CenOS 3.0 features that simplify deployment and reduce cost for continued maintenance of the indoor Access Point. The Cerio CenOS is undoubtedly your wifi application best choice.

CenOS 4.0 Software Introduction:

CERIO's NGS Firmware uses the CenOS4.0 core. The firmware's three operation modes include Authentication Access Point (AAP) and both Control Access Point (CAP) and Thin Access Point (TAP) modes. CERIO's CenOS 4.0 Access Point uses hotspot technology importing concepts. Main functions include authentication login support through remote RADIUS Server, local user account, OAuth2.0 account and guest login in AAP mode.

Cerio's (Thin AP) wireless base station TAP function supports only GUI state monitor displays when acting as a Thin Access Point. Once this setting is operational, the device ends all NGS centralized control and management functions and operates strictly under the control and management of other supervising systems such as an AP utilizing CAP (Controller Access Point) mode. The thin AP deployment architecture acts to effectively improve network efficiency, and reduce security concerns of information theft from wired/wireless invades. Because no settings are stored in a Thin AP, device theft or invader intrusion would pose no threat to the networks security.
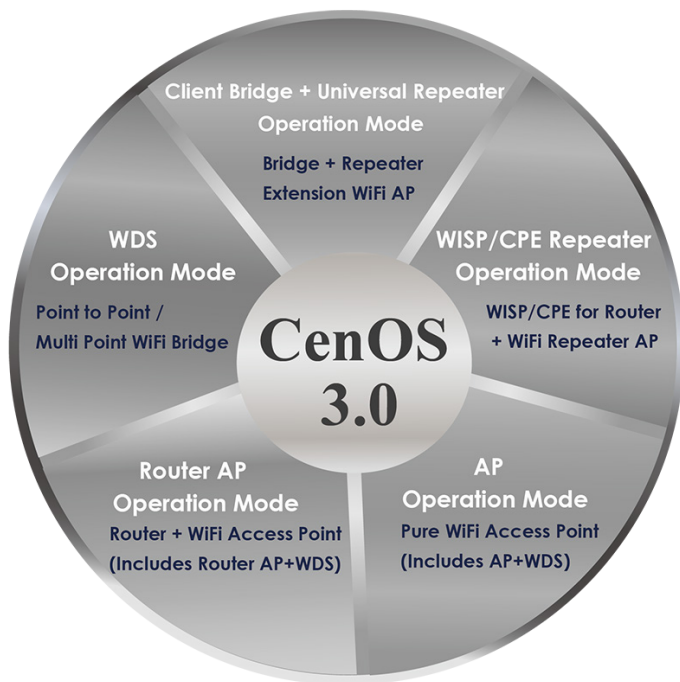
Control Access Point (CAP)- AP manager

Administrators should use CAP mode to simultaneously managed APs operating in AAP and TAP mode. Centralized APs management enables control of Wi-Fi function / security / users authentication / firmware upgrade / system time / traffic monitoring / and system information. TAP mode supports GUI status monitoring, allowing administrators to facilitate audit APs. CERIO's NGS Firmware also supports load balance management through TAP mode (Real-time

user limitation).

*This product is shipped with CenOS 3.0 preloaded as the default software bundle. Users wishing to change to CenOS 4.0 must visit the official CERIO website to download the CenOS 4.0 firmware.
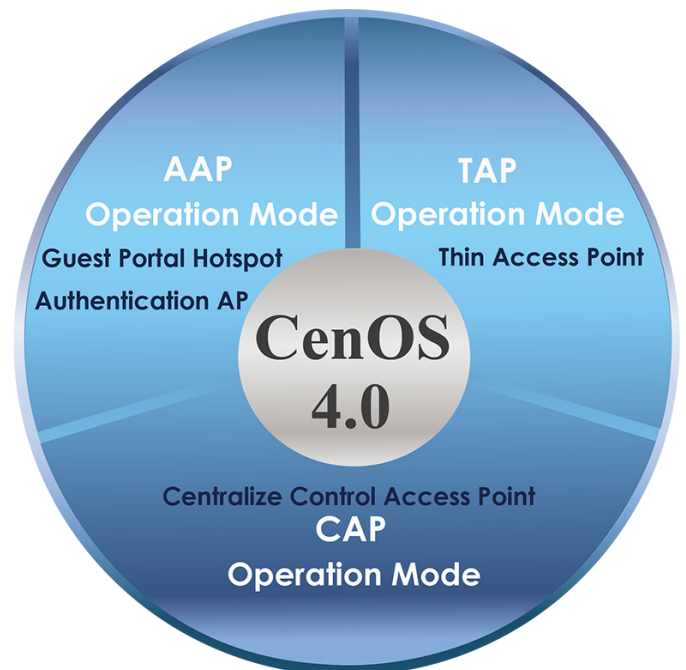
Integrated: CenOS 3.0 Software Bundle

Integrated: CenOS 4.0 Software Bundle

Client Bridge + Universal Repeater
Operation Mode

Bridge + Repeater
Extension WiFi AP

WDS
Operation Mode

Point to Point /
Multi Point WiFi Bridge

WISP/CPE Repeater
Operation Mode

WISP/CPE for Router
+ WiFi Repeater AP

CenOS
3.0

Router AP
Operation Mode
Router + WiFi Access Point
(Includes Router AP+WDS)

AP
Operation Mode
Pure WiFi Access Point
(Includes AP+WDS)

AAP
Operation Mode
Guest Portal Hotspot
Authentication AP

TAP
Operation Mode
Thin Access Point

CenOS
4.0

Centralize Control Access Point
CAP
Operation Mode

Only Cerio's special model supports Router AP mode

Only Cerio's special model supports CAP mode

CW-300N's CenOS 3.0 Software supports AP (Including AP+WDS) Mode and Client Bridge+Universal repeater mode

CW-300N's CenOS 4.0 Software supports Control Access Point (CAP) Mode, Authentication Access Point (AAP) Mode, and Thin Access Point (TAP) mode

CenOS 3.0 and CenOS 4.0 Overlapping Features

➢ Provides Traffic Monitor and Graphical GUI Status Interface

➢ LED Control to Enable and Disable the blinking of the devices LED lights

➢ Supports IEEE802.1d Spanning Tree protocol, to prevent packet looping as a result of wireless/wired device network problems

➢ Supports wireless IGMP the v1/v2/v3 function, routing multi-cast stream to more efficiently manage media traffic

- ➢ Supports Ping Watchdog to detect crashes after consecutive failed pings

- ➢ Supports Hardware chipset base Watch Time Dog, allowing the OS to reboot automatically before a crash

- ➢ Software UI supports Auto reboot setting function. Software setting allows automatically reboot by Daily/Weekly/Monthly settings

- ➢ Auto Channel Scan and supports scanning other AP sites to survey information

- ➢ Administrative Access : Supports CLI access via Telnet and SSH

- ➢ Supports advanced monitoring user interface. The status page displays system status, CPU, memory, LAN and wireless network status, and provides a graphical chart for improved analysis by management. 。

Wireless Features

- ➢ Supports IEEE802.11n standards，up to 300Mbps(Tx), 300Mbps(Rx) data transfer rate

- ➢ Transmission power control : Layer 1~9

- ➢ Supports at total of 16 Multiple-ESSIDs per device

- ➢ IEEE802.11f IAPP : to facilitate faster roaming for the stations among different APs nearby

Authentication / Encryption (Wireless Security)

- ➢ Blocks client to client discovery within a specified VLAN (ESSID) through Client Isolation

- ➢ Supports data transmission encryption EAP-TLS + Dynamic WEP , EAP-TTLS + Dynamic WEP PEAP/MSPEAP + Dynamic WEP and supports user authentication WPA-PSK/TKIP,WPA-802.1x/TKIP, 802.11i WPA2-PSK/CCMP/AES, WPA2(802.1x /CCMP / AES)

- ➢ Hidden SSID broadcast support, and VLAN assignment on ESSID

- ➢ Access Control list (ACL) by MAC Address

Quality of Service (QoS)

- ➢ Support COS and DiffServ/TOS, IEEE 802.1Q Tag VLAN priority control

- ➢ Support IEEE802.11e WMM for wireless data packet prioritization

Management

- ➢ Supports intuitive network management interface and web browser management interface

- ➢ Support Firmware Upgrade via Web , Reset to Factory Defaults

- ➢ Support SNMP v1/v2c/v3, MIB II. Also supports SNMP Traps to a list of IP addresses

- ➢ Supports HTTP or HTTPS management options

➢ In addition to supporting System Log, system recording via Telnet and SSH CLI access management is also supported

CenOS 3.0 and CenOS 4.0 Software Comparison

CW-300N CenOS 3.0 Specifications	CW-300N CenOS 4.0 Specifications
➢ Operation Modes : AP Mode, AP+WDS Mode, Client Bridge + Universal Repeater ➢ Supports up to 4 group WDS (Wireless Distribution Service) bridging links ➢ Built-in Cerio CenOS3.0 software Core interface allows for communicating with Cerio Wireless Management Software (CWMS) and CERIO AM-Series AP Management WLAN Switch or Access Controller hardware device of network management servers Cerio Wireless Management Software (CWMS) Centralized APs management software– PC Base Control AP Group Management Support up to 500 Access Point / Windows base CWMS only supports Cerio's CenOS 3.0 core	➢ Operation Modes: (AAP) Authentication AP Mode, (TAP) Thin AP Mode, (CAP) Control AP Mode. ➢ Provide customizable login and logout portal page by Web Page ➢ Each Virtual ESSID supports 10 local built-in local accounts, Supports 10 local accounts x 8 virtual ESSID for a total of 80 local accounts. And supports external RADIUS server, and OAuth2.0 Facebook / Google accounts ➢ Provides customizable Login redirect URL and Login URL web links ➢ Each SSID supports 802.1q VLAN Tag standards，supporting a max of 4096 VLAN Tags ➢ Control Access Points (CAP) can centrally manage AAP and TAP devices. CAP allows management of up to 16 wireless base stations with NGS CenOS 4.0 support. CAP provides group management which provides convenience when changing wireless settings, updating firmware, etc. **Support Wireless Access Controller** CERIO CenOS 4.0 Access Point provides authentication and authorization for a wireless networks. Administrator can select CAP (Control Access Point) mode to centralize management of network APs. **(CAP Mode) Control Access Point Mode** ➢ AP Group management –maintain a set of setting templates that simplify the task to assign the same setting to multiple APs ➢ AP-Automatic configuration and provisioning by CAP mode. ➢ Locally maintained configuration profiles for managed APs ➢ Auto discovery managed APs for TAP/AAP mode. ➢ Centralized firmware Upgrade-Select multiple APs and upgrade

their firmware at the same time

➢ Remote Firmware upgrade by TFTP and HTTP.

(TAP) Thin Access Point Mode

When devices operates in TAP (Thin AP) mode, other operation functions are disabled and the Thin AP device must be controlled and managed by other devices such as a NGS CenOS 4.0 CAP mode devices of AM-5000 Controller. Thin AP devices experience better CPU and memory loading, ultimately improving the overall performance of the network infrastructure.

Access Points operating under TAP mode can only provide status modules to administrators. Thin AP devices cannot control themselves, and instead needs other devices such as NGS CenOS 4.0 CAP mode (Controller access point- AP manager) to provide management settings. Thin APs provide network security because if the device were stolen or hacked, there would be no valuable information susceptible to loss due to the device's simplicity and lack of functionality.

(AAP) Authentication Access Point Mode

Service provider can benefit from the flexible web redirection service. This service provides a set of location, browser, and user-specific information to the backend system to enable value added personalized service provided by the WISP. Detailed location information is available via HTTPs/XML interfaces. Web pages can be either stored locally on the OS or remotely on a guest portal server.
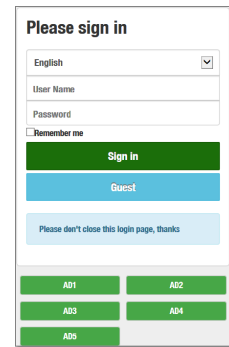
☰ Authentication Setup		
Login Timeout	10	Minutes
Redirect URL	http://www.google.oom	
Login URL	www.domain0.login.tw	
Session Log	◉ Enable	○ Disable

Authorization：Authorization: access control to network resource such as protected network with intranet, Internet, and bandwidth.

Web Authentication

➢ **Authentication:** single sign-on (SSO) client with authentication integrated into the local authentication environment through local, RADIUS Server and OAuth2.0

➢ Support internet bandwidth control and restricts the number of guests.

➢ Allow MAC binding IP address for local users authentication

➢ Support Web-based for SSL browser-based authentication Default support OAuth2.0 through Google and Facebook account authentication

➢ AAP and TAP Mode provides a graphical user interface for monitoring AP statuses

➢ CW-300N's high power design provides stronger signal strength and ultimately more complete wireless coverage

➢ TAP mode devices support load balancing (real-time) for smartly distribute clients across APs for optimal performance

	Cerio CW-300N CenOS3.0 / CenOS4.0 Comparison 2.4GHz · PoE Supported · EXTREME POWER	
Software Bundle	*CenOS 3.0*	*CenOS 4.0*
Software Features	● Can extend a wireless signal and utilize PoE Bridge function ● Centralized AP management through CWMS	● Supports web login authentication：Local account / Auth2.0 / RADIUS Server / Guest Auth 2.0 ● AP can be converted to centralized AP manager ● Supports customized login page ● Supports QoS bandwidth management
Operation Mode	AP Mode, AP+WDS Mode, Client Bridge + Universal Repeater Mode	1. AAP (Authentication Access Point) Mode 2. TAP (Thin Access Point) Mode 3. CAP (Control Access Point) Mode

Features / Mode	AP Mode	AAP Mode
Web login authentication		Yes
Walled Garden Support	N/A	Yes
Privilege address		Yes
AP + WDS	Yes	No (Pure AP)
Max Associated Clients/AP	32 Max Client Limit	64 Max Client Limit
Wireless Security/Encryption	WEP/WPA/WPA2/RADIUS/ with 802.1X	WPA/WPA2/RADIUS/ with 802.1X
		TAP Mode
Thin AP support	N/A	Only supports GUI AP status monitoring
		CAP Mode
Centralized AP Management	Centralized AP management not supported within the firmware operating system **CenOS 3.0 devices supports centralized AP management through CERIO Wireless Management Software or AM series hardware AP controller**	Yes (CAP Mode) 1. Supports management of up to 16 APs 2. Simultaneous management of AAP / TAP devices 3. AP Group Management/ AP Mapping/ AP Status Monitoring
Centralized AP Management Settings		1. AP scanning and VLAN Tagging support 2. IP Address / Gateway / DNS Setting 3. Operation mode changing 4. Wifi function settings 5. Firmware update 6. System time setting 7. AP profile copy
Status monitoring		1. Supports client connection monitoring 2. User bandwidth (TX/RX)
Client Bridge + Repeater		
AP Bridging	Yes	N/A
Signal Extension	Yes (Supports Repeater AP Function)	

CW-300N Hardware Key Features

➢ 500mW at 2.4Ghz Output eXtreme High Power, Built in 2.4GHz 2x2 Smart Omni Directional Antenna

➢ IEEE 802.11n 2Tx / 2Rx Design, Bandwidth of up to 300Mbps(Tx), 300Mbps(Rx) link rate

➢ IEEE 802.3af/at Power over Ethernet (PoE) in this device

➢ Integrates a long-range power amplifier and high sensitivity receiver to deliver unmatched reliability and performance at large coverage application

➢ Easy to install Ceiling / Walling mounting using a Mounting Bracket form factor

CW-300N Hardware Application

Ceiling / Wall Mount Application


Ceiling Mount

Wall Mount

Mount the CW-300N device securely onto a ceiling or wall by following the following simple 3 steps. First install the mounting bracket in a desired position. Use the plastic anchors and metal screws for the mounting screw pack to mount the bracket firmly in place. Next, simply align the device with the mounting hinges on the bracket. Once the mounting clips are fit correctly into the hinges, slight the device downward to lock it into place.

Ceiling Mount
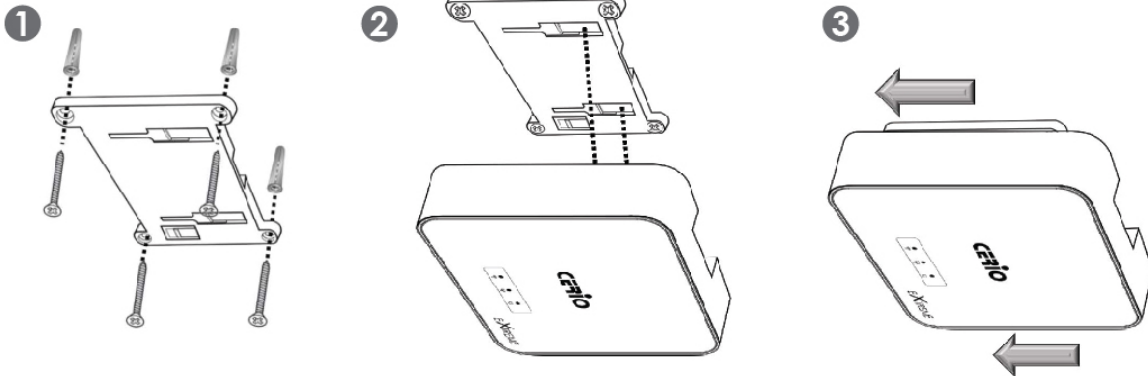
Wall Mount
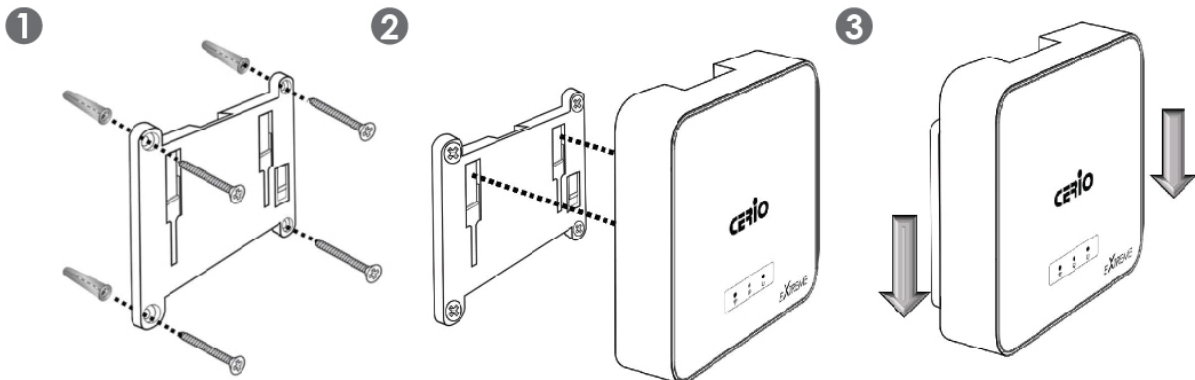
CW-300N Hardware Specifications

Application Software

OS System Compatible edition	Cerio CenOS 3.0 and Cerio CenOS 4.0 Software Core

Specifications

Network Standards Conformance	IEEE 802.11 b/g/n compliant
	IEEE 802.3 / IEEE 802.3u
	IEEE 802.11 b/g/n compliant
	IEEE802.3af/at Power Over Ethernet compliant
	IEEE 802.11Q
	IEEE802.11e WMM
Ethernet Configuration	10/100BASE-TX Auto MDI/MDI-X Ethernet Connector x 1
	(Power over Ethernet 802.3.af/at PoE in)
LED Indicators	(WLAN) Wifi LED x 1
	(LAN) Ethernet LED x 1
	(PWR) Power LED x 1

Wireless Specifications

Data Transfer Rate	IEEE802.11b : 1 / 2 / 5.5 / 11Mbps (auto sensing)
	IEEE801.11g : 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54Mbps (auto sensing)
	IEEE802.11n　: 300Mbps (Tx), 300Mbps (Rx)
Frequency Range	2.412 ~ 2.462GHz (USA)
	2.412 ~ 2.484GHz (Japan)
	2.412 ~ 2.472GHz (Europe ETSI)
	2.457 ~ 2.462 GHz (Spain)
	2.457 ~ 2.472 GHz (France)
Channel Spacing	IEEE802.11b/g/n : 20/40MHz
Media Access Protocol	CSMA / CA with ACK
Modulation Method	IEEE802.11b：DSSS (DBPK,DQPSK,CCK)

	IEEE802.11g/n：OFDM(64-QAM,16-QAM,QPSK,BPSK)
Operating Channels	802.11b/g/n : 11 for FCC,14 for Japan,13 for Europe, 2 for Spain, 4 for France
Transmit Power Variation	Max : 27 ± 1 dBm
Receiver Sensitivity	Max : -92 dBm

Environmental & Mechanical Characteristics

Operating Temperature	-10 ℃ ~ 55 ℃
Storage Temperature	-20 ℃ ~ 65℃
Operating Humidity	10% - 90% Non-Condensing
Storage Humidity	10% - 90% Non-Condensing
Antenna	Build in 2x2 Smart Omni Directional Antenna
Form Factor	Supports both Ceiling Mounting and Wall mounting, installed using a provided Mounting Bracket.
System Power Consumption	9W Max.
Power Require	110 – 220V AC Power;12 VDC / 1A Supports Power Over Ethernet (POE 48~57V voltage) Integragted IEEE 802.3af /at Power over Ethernet (PoE)
Dimensions (W x H x D)	Main Unit : 36x120x120mm Main Unit with Bracket : 40x120x120mm
Unit Weight	166g
Certifications	FCC,CE, NCC, ROHS compliant

Package Content

CW-300N Main Unit	**x1**
Mounting Bracket	**x1**
Mounting Screw Pack	**x1**
Quick Installation Service Card	**x1**

Note: This product supports both Power 12V DC input and Power Over Ethernet (PoE PD) Power input design. However, the Package Content does not include a Power adapter or PoE(PSE) source. Power sources can be requested as an optional component, and includes 12V PoE adapter or 802.3af / at 48V PoE (PSE) devices. (PoE Injector or PoE Switch)