IW-100GX-N

eXtreme Power 11n 2.4Ghz 1x1

In Wall PoE Access Point (800mW)

EAN Code : 4712757152685

Supports CenOS 3.0 and CenOS4.0 Software OS

11n/bg 2.4GHz	800mW High Power	Built-in Antennas	150Mbps 1T1R	Universal Repeate	LED Control	802.1Q VLAN	x16 Control APs	Thin Access Point	Hotspot Guest Portal
WISP+AP Mode	In Wall	IAPP SUPPORTED	Telnet w / CLI	SNMP v1/v2c/v3	MULTIPLE SSID x8	Bandwidth Control	ACL SUPPORTED	Repeater Bridge	802.1x

CERIO IW-100GX-N eXtreme Power 11n 2.4Ghz 1x1 In Wall 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.

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IW-100GX-N eXtreme Power 11n 2.4Ghz 1x1 In Wall PoE Access Point is an **easy-to-instal**l and **cost-effective solution** for most of indoor wireless deployments. The high class access point is perfect for application in areas such as: **hotels, offices, and Luxurious houses**. The IW-100GX-N effectively works to extend the range and increase the performance of a wireless network. The IW-100GX-N provides a RJ-45 wired connection as well as both Wi-Fi wireless connection and **RJ11 Pass-through functionality**.

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The IW-100GX-N eXtreme Power 11n 2.4Ghz 1x1 In Wall Access Point hardware utilizes 800mW eXtreme power and **built-in 2.4 GHz 1x1 Omni directional antennas.** IW-100GX-N 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. IW-100GX-N's 800mW High Power design supports 802.3af/at Power over Ethernet standards.

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 Router + WiFi Access Point (Includes Router AP+WDS) and Pure WiFi Access Point (Includes AP+WDS) and Point to Point / Multi Point WiFi Bridge and Bridge + Repeater Extension WiFi AP and WISP/CPE for Router + WiFi Repeater AP functions . The CenOS 3.0 core's operational mode supports Router AP with WDS mode / Pure AP with WDS Mode / Pure WDS mode / Client Bridge + Universal Repeater Mode and WISP/CPE Repeater +AP 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.

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).

IW-100GX-N's CenOS 4.0 AAP mode provides a platform for administrators to customize login pages for company/brand benefit by incorporating advertisements and images into the login page. Customers are able to access the internet quickly and conveniently, while also being exposed to company advertisements. Traditional security protocols actually slow wireless transmission efficiency by up to 20%, especially when environmental

obstacles and long distances come into play. This makes CERIO's CenOS 4.0 ideal for businesses and restaurants where wireless authentication information is constantly requested by customers.

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

*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.
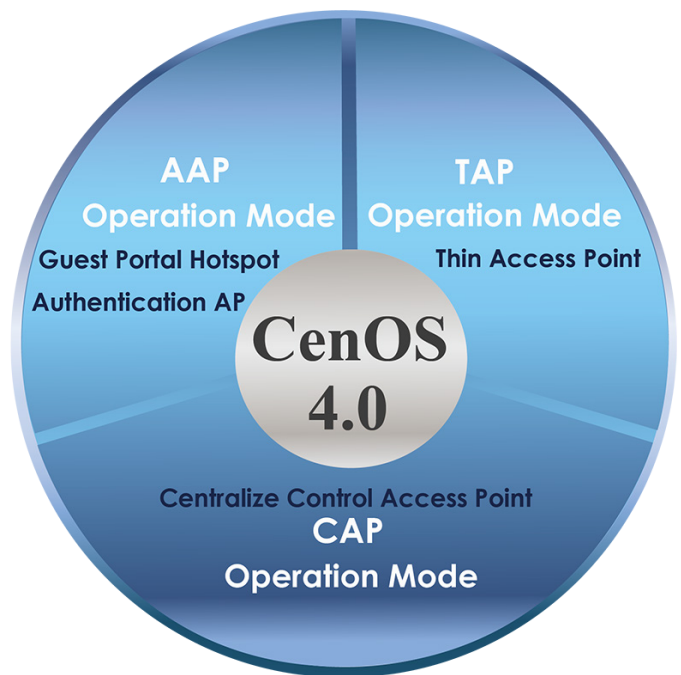
Integrated: CenOS 3.0 Software Bundle

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

IW-100GX-N's CenOS 3.0 Software supports Router AP Mode, AP (Including AP+WDS) Mode, Pure WDS Mode, WISP Repeater AP Mode and Client Bridge+Universal repeater mode

IW-100GX-N'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 : HTTP/HTTPS protocol 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 150Mbps(Tx), 150Mbps(Rx) data transfer rate
- Transmission power control : Layer 1~9
- Each set of SSIDs supports connections of up to 32 users, supports up to 8 SSID (Virtual AP)
- Supports multiple language support / display capabilities
- IEEE802.11f IAPP : to facilitate faster roaming for the stations among different APs nearby
- Supports IEEE 802.11d-Multi country roaming

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

➢ Status monitoring support and real-time online user traffic data support
➢ 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

IW-100GX-N CenOS 3.0 Specifications	IW-100GX-N CenOS 4.0 Specifications
➢ Operation Modes : Router AP Mode, Pure AP Mode + WDS, Pure WDS Mode, Client Bridge + Universal Repeater Mode, WISP Repeater Mode ➢ Supports up to 8 group WDS (Wireless Distribution Service) bridging links ➢ RIP and OSPF support for keeping track of routing functions (dynamic routing) ➢ Support for web management interface and SNMP MIB-II ➢ WISP multi-site selection support. Whether in the WISP's Client Bridge Repeater AP or the WISP's WISP + Repeater AP site settings can be set and support multi-site automatic backup	➢ 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.

➢ 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

➢ Supports IEEE 802.11Q Tag VLAN priority control

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

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.

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

➢ IW-100GX-N'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 IW-100GX-N CenOS3.0 / CenOS4.0 Comparison

2.4GHz | PoE Supported | EXTREME POWER

Software Bundle	CenOS 3.0	CenOS 4.0
Software Features	● Supports NAT Routing functions ● Supports wireless signal repeating/bridging functions ● Centralized AP management through CWMS ● Supports QoS bandwidth management ● Supports IEEE802.1Q Tag VLAN priority control	● 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	Router AP Mode, AP Mode and AP+WDS Mode, Pure WDS Mode, Client Bridge + Universal Repeater Mode, and WISP 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	N/A	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)
WDS Mode		
WDS Functions	8	

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	Router AP / CPE (WISP) Mode	
Network Connection Methods	Static IP / Dynamic IP/ PPPoE / PPTP	
Server Support	DHCP Server / Virtual Server	
DDNS / UPNP / DMZ	Yes	N/A
IP Routing	Yes (Static / RIP / OSPF / Distribute OSPF over RIP)	
	Client Bridge + Repeater	
AP Bridging	Yes	
Signal Extension	Yes (Supports Repeater AP Function)	N/A
Signal Extension	Yes (Supports Repeater AP Function)	

IW-100GX-N Hardware Key Features

➢ 800mW at 2.4Ghz Output eXtreme High Power

➢ IEEE 802.11n 1Tx / 1Rx Design, Bandwidth of up to 150Mbps(Tx), 150Mbps(Rx) link rate

➢ Integragted IEEE 802.3af Power over Ethernet (PoE) in this device.

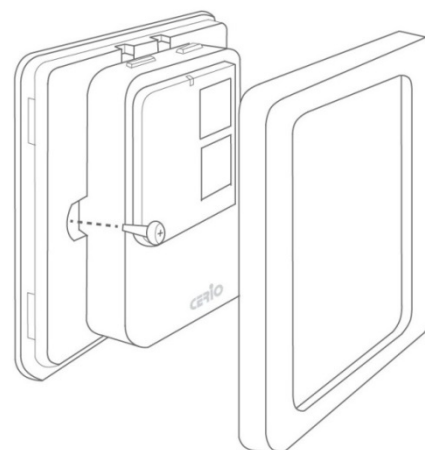➢ Ethernet RJ45 x 2 port connector and Phone RJ11 x2 port design

IW-100GX-N Hardware Application

Mounting Application
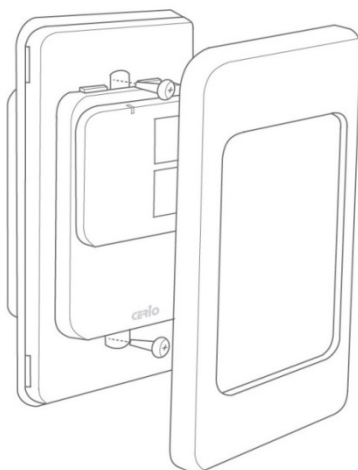
Main Unit with US-Type Faceplate Module

(U.S.A. / Japan Specification)

Main Unit with EU-Type Faceplate Module

(Europe / China Specification)

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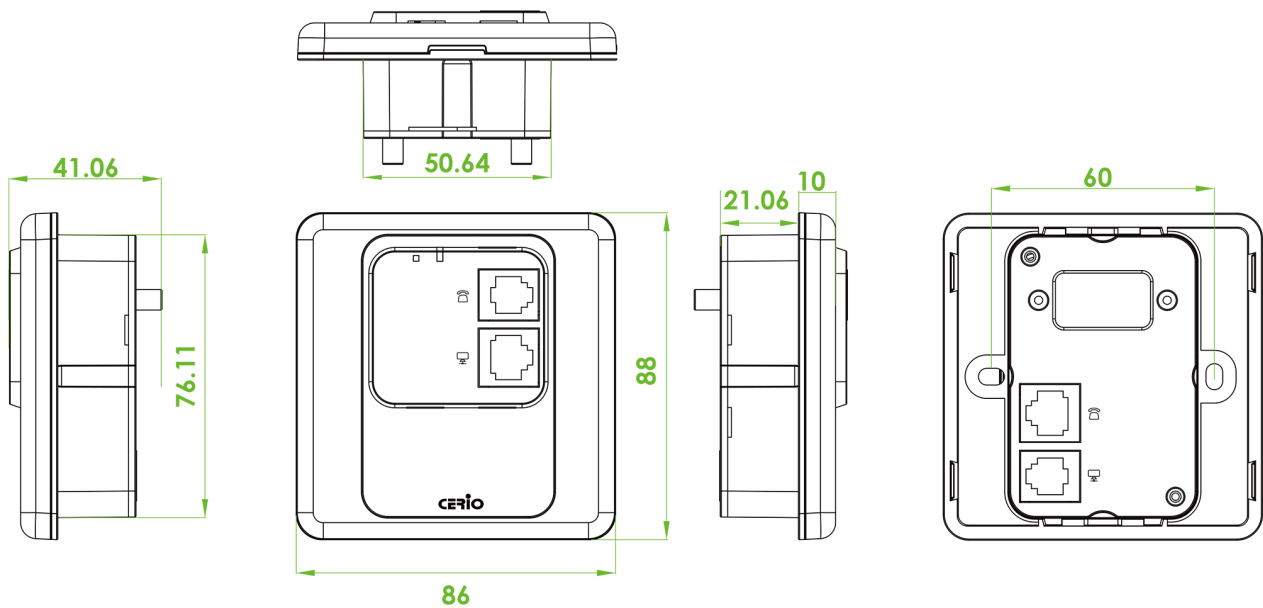Support : support@cerio.com.tw

Main Unit with US-Type Faceplate For US / Japan Specification

Size of In wall: measured in mm
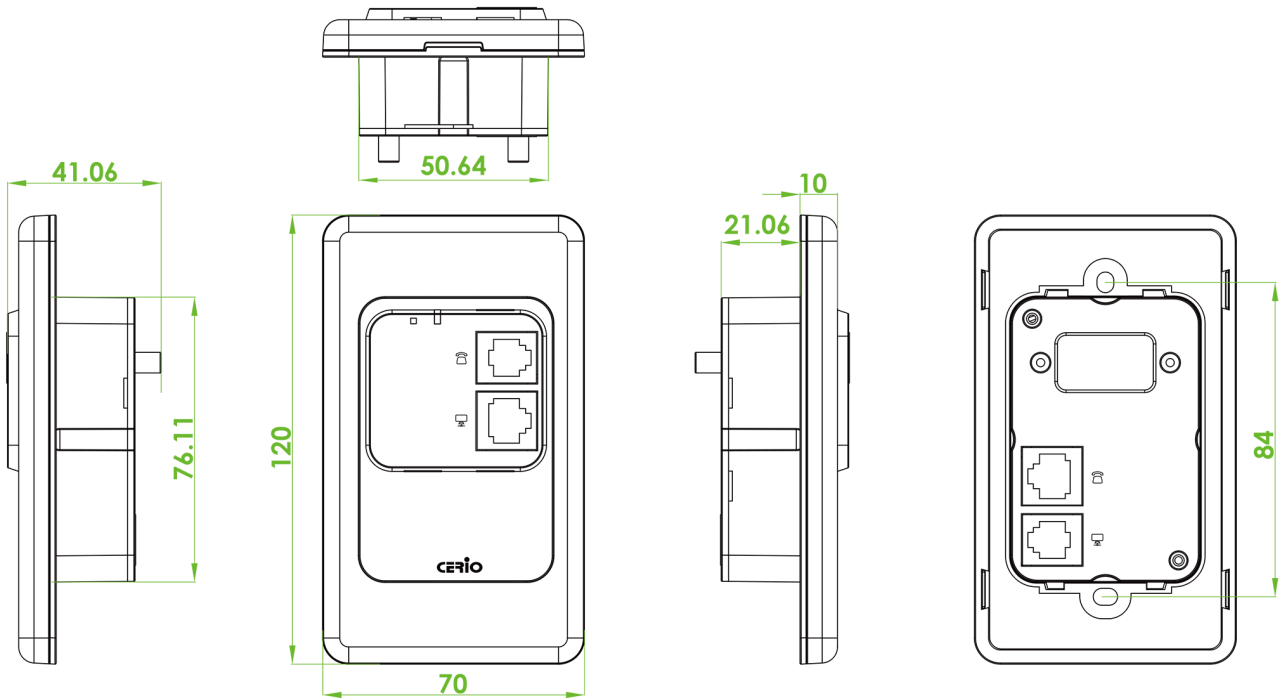
Main Unit with EU-Type Faceplate For Europe / China Specification

Size of In wall: measured in mm

IW-100GX-N Hardware Specifications

Application Software

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

Specifications

Standards Conformance	IEEE 802.11 b/g/n compliant
	IEEE 802.3 / IEEE 802.3u
	IEEE 802.3af Power over Ethernet
	IEEE 802.11i Preauth (PMKSA Cache)
	IEEE 802.11d Multi country roaming
	IEEE 802.1Q Tag VLAN
	IEEE802.11f　IAPP
	IEEE802.11e WMM
Ethernet Configuration	10/100BASE-TX Auto MDI/MDI-X RJ-45 Ethernet * 2 (Power over Ethernet 802.3.af PoE in)
Telephone Configuration	RJ-11 **Pass Through**　In x1 connector , Out x1 connector
LED Indicators	(Power / Network Access) 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
	IEEE802.11n 　: 150Mbps (Tx), 150Mbps (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)

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Channel Spacing	IEEE802.11b/g/n : 20/40MHz
Media Access Protocol	CSMA / CA with ACK
Modulation Method	IEEE 802.11b: DSSS (DBPK,DQPSK,CCK)
	IEEE 802.11g/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 : 29 ± 1 dBm
Receiver Sensitivity	Max : -96dBm

Environmental & Mechanical Characteristics

Operating Temperature	-25 °C ~ 55 °C
Storage Temperature	-25 °C ~ 65 °C
Operating Humidity	10% to 80% Non-Condensing
Storage Humidity	5% to 90% Non-Condensing
Antenna	Build in 1x1 Smart Omni Directional Antenna
Form Factor	**In Wall Faceplate :**
	for US Type and EU Type In Wall
	Stand Bracket :
	for Stand / Wall Mounting / Ceiling Mounting
System Power Consumption	8 Watt Max.
Input Power Require	803.3af 48V PoE Ethernet Interface Power In
Dimensions (W x H x D)	**Main Unit** : 52 x 76.2 x 35mm
	Faceplate Set : 70 x120x10 mm(US-Type)
	Faceplate Set : 86 x 88 x10 mm(EU-Type)
	Stand/Mounting Bracket : 64 x 85.5 x 54 mm
Unit Weight	Main Unit 72.5g , US-Faceplate 26g , EU-Faceplate 21.5g , Stand/Mounting Bracket 23.5g
Certifications	CE, FCC, NCC, BSMI, ROHS Compliant

Package Content

100GX-N Main Unit	**x1**
RJ-45 UTP Cable	**x1**
In Wall Faceplate Set - 1 (U.S.A Specification)	**x1**
In Wall Faceplate Set - 2 (Europe Specification)	**x1**
Wall Mounting Bracket Set	**x1**
CD Manual	**x1**
Quick Installation Guide	**x1**
Warranty Card	**x1**

Note: The Package Content does not include Power (PSE) source. This product only has Power Over Ethernet (PoE PD) Power input design, Power source will require 48V PoE (PSE) device . (PoE Injector or PoE Switch)