RG-CNC105

4-in-1 Edge Controller



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Datasheet

Date: 2026.10.30

Product Overview

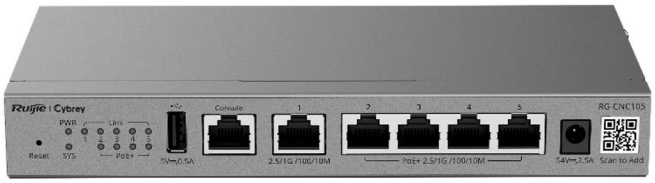
Introduction

The RG-CNC105 access controller (AC) is an all-in-one next-generation network manager. It integrates the functions of an AC, router, and PoE switch. The RG-CNC105 can be used as an AC in medium-sized projects and as an egress gateway in small-sized projects.

The RG-CNC105 can manage up to 32 wireless access points (APs) by default. Through powerful centralized and visualized management and control over wireless networks, the RG-CNC105 can significantly simplify construction and deployment of wireless networks. The RG-CNC105 can be used with same brand APs and Cloud — a unified management platform for wired and wireless networks, to achieve flexible control of APs, optimize RF coverage and performance, implement cluster management, and reduce the workload of device deployment.

Product Appearance

RG-CNC105



Product Highlights

High Performance

- Supports up to 500 clients
- 2 Gbps forwarding capacity
- Manages up to 32 APs
- 4 ports supporting IEEE 802.3af/at (PoE/PoE+) power output to connected devices

Intelligent Management

- Advanced wireless access controller technology for fast roaming
- Intelligent load balancing through band steering
- Dynamic QoS based on channel utilization, unleashing full wireless capacity
- Intelligent RF management, enabling flexible AP configuration and optimizing RF coverage and performance

Secure and Reliable Network Systems

- Group-based AP management for isolating guest and business traffic
- Dynamic network policies for identity-based access control
- Authentication and encryption technologies, including WPA3, 802.1X, PSK, WEP, and AES, for enhanced data security

Product Features

Intelligent RF Management

The device enables APs to perform on-demand RF scanning of the wireless network. It can scan wireless frequency bands and channels, identify rogue APs and unauthorized wireless networks, and alert administrators, providing 24/7 protection in security-sensitive environments. Moreover, the device can control RF scanning on APs in real time to measure signal strength and interference. It can dynamically adjust traffic load, transmit power, RF coverage, and channel allocation using software tools to maximize coverage and capacity.

Local Authentication

The wireless controller has a built-in local user database and works with the built-in portal server to provide easy local authentication for wireless users through web-based authentication. Local authentication is designed to meet users' actual needs, eliminating the need for external portal and RADIUS servers. It simplifies the overall network architecture and significantly reduces network deployment costs, providing secure access for small and medium-sized wireless networks.

User Data Encryption and Security

The device supports comprehensive data security mechanisms, including Wired Equivalent Privacy (WEP), Temporal Key Integrity Protocol (TKIP), and Advanced Encryption Standard (AES), to ensure the security of data transmission over wireless networks.

Standard Communication Protocols

The device uses the international standard protocol CAPWAP to encrypt communications with APs, isolating the communications from the wired network while ensuring secure and real-time communication between the device and APs.

Attack Prevention

The device uses multiple built-in security mechanisms to effectively prevent network traffic attacks, prevent unauthorized network access, and ensure fair network access for authorized users. These mechanisms include IP/MAC/WLAN multi-element binding, hardware-based ACL control, and flow-based bandwidth limiting. They meet the needs of campuses, hospitals, enterprises, and other organizations to strengthen access control for guests and restrict communication by unauthorized users.

Secure User Access

The device supports web-based authentication, allowing users to complete the authentication process using a web browser.

The device also supports client-based authentication (802.1X), which not only enhances network security but also enables host security through the client. Unlike web-based authentication, 802.1X is suitable for areas where network security is strictly controlled. In addition, IP, MAC, WLAN, and other elements can still be bound after authentication, ensuring that only authorized users can access the network.

ARP Spoofing Protection

The ARP detection function effectively prevents common ARP gateway and host spoofing attacks, ensuring normal Internet access for users. Automatic IP-MAC binding is supported in both dynamic and static IP address allocation modes, significantly reducing manual configuration and management costs. Combined with ARP rate monitoring, the device controls the transmission rate of ARP packets to prevent malicious scanning tools from generating ARP floods that consume network bandwidth and cause network congestion.

Product Features

DHCP Security

The device supports DHCP snooping, allowing DHCP responses only from trusted ports. This prevents unauthorized DHCP servers from disrupting IP address allocation and management and affecting normal Internet access. In addition, based on DHCP snooping, the device dynamically monitors ARP packets and verifies source IP addresses to effectively prevent ARP host spoofing and source IP address spoofing in networks with dynamically assigned IP addresses.

Management Information Security

Secure Shell (SSH) and SNMPv3 secure management communications by encrypting management information, ensuring the security of device management information and protecting devices against unauthorized access and control. Source IP-based Telnet access control provides more granular management access control, ensuring that only IP addresses configured by administrators can be used to log in to the wireless controller, thereby enhancing the security of device management.

Product Specifications

Hardware Specifications

Port Specifications	RG-CNC105
Fixed service port	5 x 10/100/1000/2.5GBASE-T ports, with ports 2–5 supporting IEEE 802.3af/at-compliant PoE output.
Fixed management port	1 x RJ45 console port 1 x USB 2.0 port
LED	1 x system LED 5 x port LEDs 4 x PoE LEDs 1 x power LED
Reset button	1

Dimensions and Weight	RG-CNC105
Unit dimensions (W x D x H)	202 mm x 108 mm x 28 mm (7.95 in. x 4.25 in. x 1.10 in., without rack-mount brackets)
Packaging dimensions (W x D x H)	214 mm x 197 mm x 67 mm (8.43 in. x 7.76 in. x 2.64 in.)
Rack height	1 RU
Unit weight	0.63 kg (1.39 lbs)
Packaging weight	1.49 kg (3.28 lbs)
Color	Gray

System Specifications	RG-CNC105
Flash memory	512 MB
RAM	1 GB DDR4

Power Supply and Consumption	RG-CNC105
Power input	DC adapter input: ● Rated input voltage: 100 V AC to 240 V AC, 50 Hz or 60 Hz ● Rated input current: 2.0 A

Power Supply and Consumption	RG-CNC105
	DC adapter output: ● Rated output voltage: 54 V DC ● Maximum output current: 2.5 A
Power output	Supported ● The Ethernet port provides 54 V/30 W power output. ● The USB port provides 5 V/0.5 A power output.
DC power supply	DC power adapter
Maximum power consumption	132 W
Number of PoE Out ports	4
PoE budget	120 W

Environment and Reliability	RG-CNC105
Altitude	Operating altitude: –500 m to +4,000 m (–1,640.42 ft. to +13,123.36 ft.) Storage altitude: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.)
Mounting options	Desktop placement, rack-mount, and wall-mount
MTBF	400,000 hours
Operating humidity	10% RH to 90% RH (non-condensing)
Operating temperature	0°C to 45°C (32°F to 113°F) Note: At altitudes ranging from 3,000 m (9,842.52 ft.) to 5000 m (16,404.20 ft.), the maximum temperature decreases by 1°C (1.8°F) for every 220 m (721.78 ft.) increase in elevation.
Storage humidity	5% RH to 95% RH (non-condensing)
Storage temperature	–40°C to +70°C (–40°F to +158°F) Note: At altitudes ranging from 3,000 m (9,842.52 ft.) to 5000 m (16,404.20 ft.), the maximum temperature decreases by 1°C (1.8°F) for every 220 m (721.78 ft.) increase in elevation.

Certification and Regulatory Compliance	RG-CNC105
Certification	CE, CB
EMC compliance	EN 55032 EN 55035 EN 61000-3-3 EN 300386 EN IEC 61000-3-2
Safety compliance	IEC 62368-1

Certification and Regulatory Compliance	RG-CNC105

Software Specifications

Bandwidth Features	RG-CNC105
Bandwidth control	AP-based bandwidth control Client-based bandwidth control Intelligent dynamic bandwidth control based on channel utilization Intelligent dynamic bandwidth control based on critical services SSID-based bandwidth control

Client Management	RG-CNC105
Client limit	Radio-based client limit SSID-based client limit
Dynamic blocklist/allowlist	Dynamic blocklist
Smart steering	AP load balancing Configuring load balancing based on client count Configuring load balancing based on client traffic
Static blocklist/allowlist	Static allowlist Static blocklist

Radio Management	RG-CNC105
SSID management basics	SSID hiding

Roaming Features	RG-CNC105
Layer 2 roaming	Layer 2 roaming Inter-AC Layer 2 roaming Intra-AC Layer 2 roaming
Layer 3 roaming	Layer 3 roaming Inter-AC Layer 3 roaming Intra-AC Layer 3 roaming

Security Features	RG-CNC105
Client security	Hotspot2.0 authentication WPA-802.1X authentication WPA-PSK authentication WPA-WPA2 authentication WPA2-802.1X authentication WPA2-PSK authentication WPA2-WPA3 authentication WPA3-Enterprise

Security Features	RG-CNC105
	WPA3-Enterprise (uses Suite-B 192-bit, GCMP-256) WPA3-Enterprise with AES-CCMP-128 WPA3-OWE authentication WPA3-Personal WEP authentication
802.1X	Dynamic ACL assignment
Client identification	Client identification
CPP	CPP
MAB	MAB
NFPP	NFPP
RADIUS	RADIUS
Web authentication	Web authentication Captive portal
RF security	WIDS AC-based client isolation AP-based client isolation

Layer 3 Features	RG-CNC105
IPv6	ICMPv6 IPv6 basic features Neighbor discovery Ping over IPv6
NAT	NAT

Management Features	RG-CNC105
SNMP	SNMPv1/v2c/v3 SNMP
Alerts	Alerts
Cloud-based management	Cloud-based management
SON	SON
SSH	SSH
Syslog	Syslog
Telnet	Telnet

Management Features	RG-CNC105
Web-based management	Web-based management

IP Services	RG-CNC105
DHCP	DHCPv4 client
NTP	NTP client NTP server

Routing Features	RG-CNC105
IPv4 routing basics	Static routing
IPv6 routing basics	Static IPv6 routing

VPN Features	RG-CNC105
IPsec VPN	IPsec VPN
PPPoE client	PPPoE client

Application Protocol Features	RG-CNC105
TFTP	TFTP

Device Management	RG-CNC105
Device IP management	Obtaining an IP address through DHCP
Device IP Management	Static IPv4 address

Multicast Features	RG-CNC105
IGMP snooping	Multicast-to-unicast conversion

Centralized Management	RG-CNC105
Forwarding mode	Local forwarding Centralized forwarding

Performance Capacity

VPN Features	RG-CNC105
Number of IPsec tunnels	100

Layer 2 Features	RG-CNC105
Maximum number of created VLANs	4094

Layer 3 Features	RG-CNC105
Maximum number of ARP entries	3000

ACL and QoS	RG-CNC105
Software ACE capacity	4096

Client Management	RG-CNC105
Maximum number of managed clients per AC	500

Centralized Management	RG-CNC105
Number of configurable APs	256
Number of pre-installed AP licenses per AC	32
Maximum number of connected APs	64
Maximum number of managed online APs	32
Number of managed CAPWAP tunnels	64

IP Services	RG-CNC105
Number of DHCP address pools	2000

Security Features	RG-CNC105
Number of 802.1X authenticated clients	64
Number of portal authenticated clients	64

Cloud-based Management of Third-Party Devices	RG-CNC105
Number of third-party devices	16

Package Contents

Device	RG-CNC105
Main unit	1

Accessories	RG-CNC105
Power adapter	1
Power cord	1
Rack-mount bracket	2 x rack-mount brackets (W x D x H: 140 mm x 30 mm x 43 mm / 5.51 in. x 1.18 in. x 1.69 in.)
Rubber pad	4
Screw	6 x M3 x 6 mm Phillips countersunk head machine screws

Manual	RG-CNC105
User Manual	1
Warranty Card	1

Ordering Information

Devices

Model	Description
RG-CNC105	The RG-CNC105 is a network controller in the AI era, integrating features of various devices such as AC, network manager, and cloud-edge collaborative controller. It provides 5 x 10/100/1000/2.5GBASE-T ports, in which 4 ports supports IEEE802.3af/at standard (PoE/PoE+) output. It supports 32 licenses by default. The maximum number of APs that can be managed is 32 universal APs or 64 wall plate APs.

Warranty

For more information about warranty terms and periods, contact your local sales agency.
Warranty terms: https://www.ruijie.com/en-global/support/servicepolicy
Warranty period: https://www.ruijie.com/en-global/support/servicepolicy/cybrey-product-warranty
Note: The warranty terms are subject to the requirements of different countries and distributors.

More Information

To learn more about the product, please visit our website or contact your local sales representative.

- Ruijie Networks official website: https://www.ruijie.com/
- Online support: https://www.ruijie.com/support
- Hotline support: https://www.ruijie.com/support/hotline
- Email support: service_rj@ruijienetworks.com


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