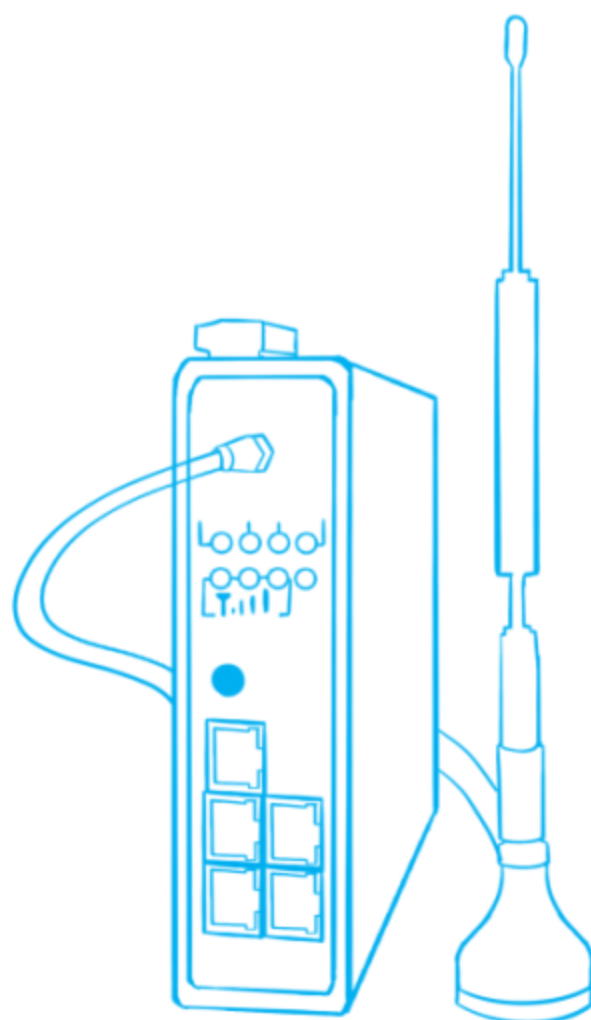


NAT Coupler (WC505)



SPECIFICATION

Product Introduction

The WC505 NAT Coupler is suitable for network communication and data collection of PLC, HMI, CNC, DCS, MES, etc. in production networks. It has the functions of cross-segment isolation and IP conversion. The WC505 supports network segment isolation and NAT conversion for more than 4 devices (such as PLCs, CNCs, etc.). If multiple devices in a workshop have IP addresses in different network segments, their IP addresses can be unified into the same network segment, enabling various cross-segment access operations like online programming, data collection, and remote management of devices (PLCs, CNCs).



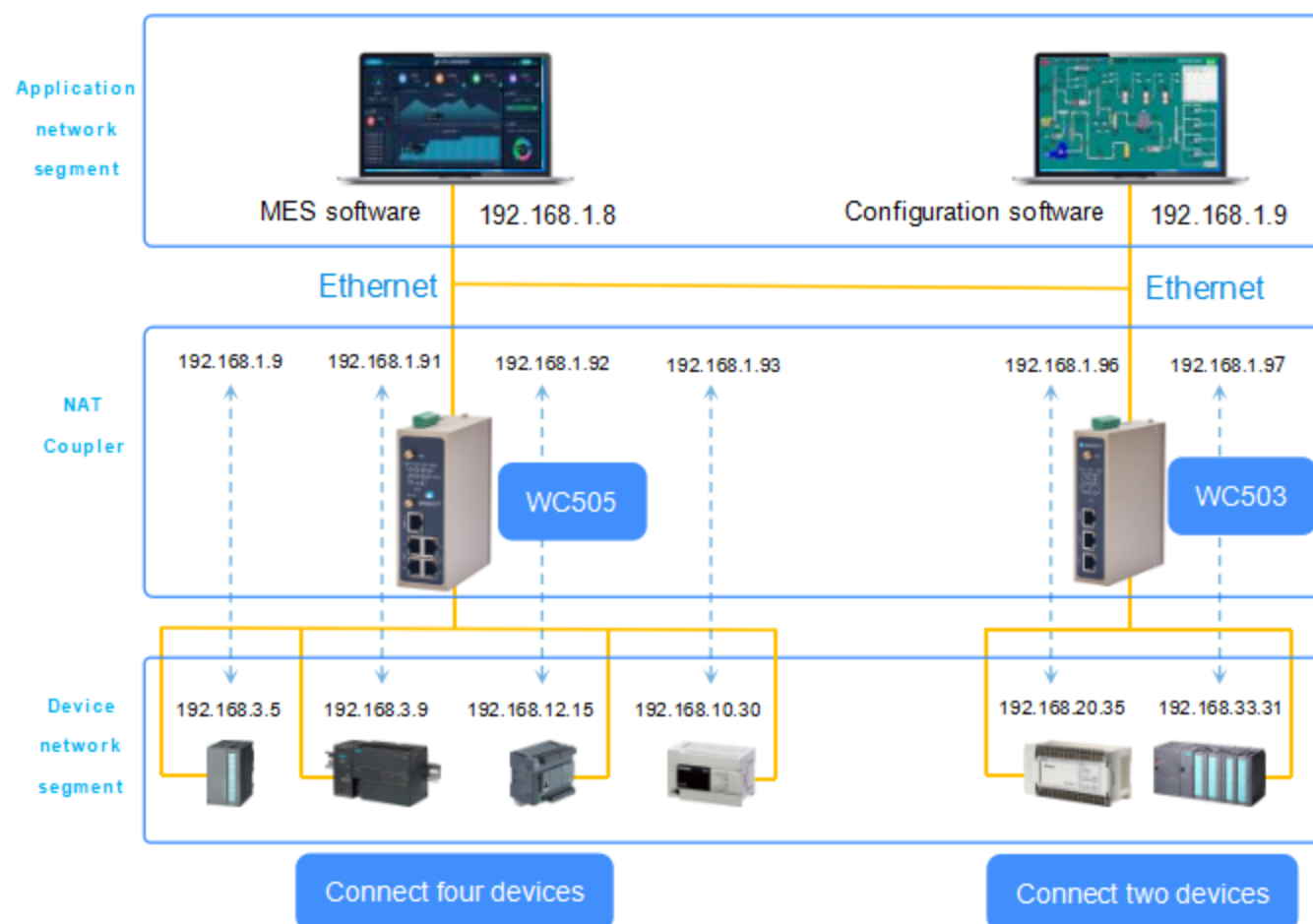
The WC505 NAT Coupler is equipped with five physical Ethernet interfaces and one WIFI interface. The WAN (single port, FE0), WWAN (WIFI interface, RF), and LAN (FE1 - FE4) (four ports) each have independent networking capabilities. The LAN (FE1 - FE4) ports can function as four LAN ports with switch functionality or be separated into four LAN ports in different network segments, mainly used to connect industrial field devices (PLCs, CNCs, etc.). The WAN Ethernet port and WIFI interface are mainly used for connecting to upper-level computers.

The WC505 NAT Coupler can isolate network segments through different firewall areas of WAN and LAN. It can achieve IP mapping of LAN ports to WAN ports through NAT and IP mapping, allowing devices to access the network without changing their IP addresses (IP duplication and conflicts do not affect the upper-level network). The unified planning of IP addresses can be realized by customizing the device IP addresses of the isolator.

Application Methods

- 1) Solve the problem that newly purchased devices cannot be connected to the network because their IP cannot be modified.
- 2) Solve the problem of communication failure between devices in different network segments through NAT conversion.
- 3) Achieve unified planning and management of IP in the production network through IP renaming.
- 4) Solve the problem of hiding the real IP of devices to prevent network attacks through IP renaming.
- 5) Effectively enhance the ability to resist network interference and attacks through firewall network segment isolation and port restrictions.

Topological Graph



Product Specifications

Software Specifications

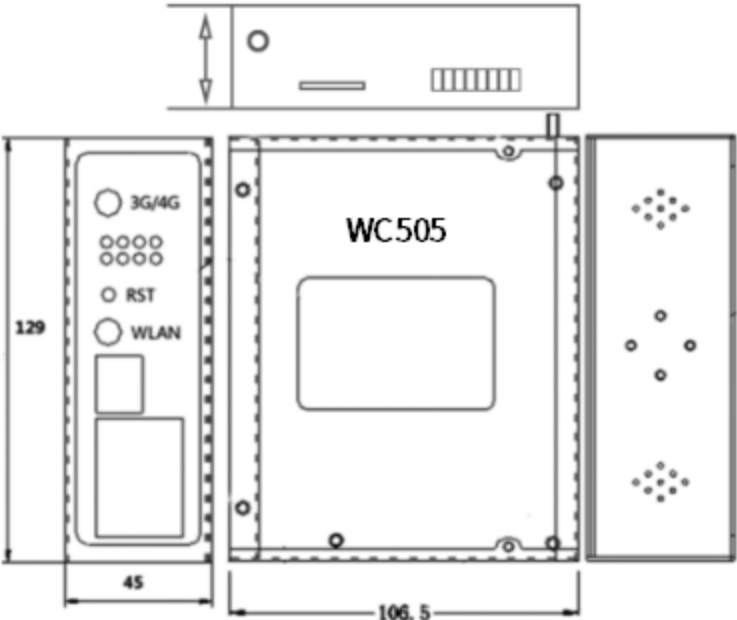
Network Function	Network Access	Support 4G, WIFI, and Ethernet access
	LAN Protocols	Supports ARP
	WAN Protocols	Supports PPP
	IP Application	Supports Ping, Tracer, DHCP Server, DHCP Relay, DHCP Client, DNS relay, ROUTE, NAT, DMZ
	IP Routing	Support static routing
Security	Protection Security	Supports full-state packet inspection (SPI), prevention of denial-of-service (DoS) attacks, filtering of multicast/Ping probe packets, source port mapping, destination port mapping, DMZ, access control function (ACL)
	Data Security	Supports L2TP VPN/PPTP VPN/OPEN VPN/IPSec VPN (optional)
	Firewall	Built - in firewall function for comprehensive network blocking and protection
	Watchdog Protection	Multiple software and hardware watchdogs to achieve self - repair of device operation failures
	Function Security Guard	Monitors various function modules in real - time, predicts and handles possible errors, and enables self - healing
Management and Maintenance	Configuration Project	Supports local configuration
	Application Upgrade	Supports local program upgrade
	Log Function	Supports complete and detailed log functions for easy and quick troubleshooting and diagnosis
	Diagnostic Command	Supports rich diagnostic command interfaces for local self-diagnosis
	Status Query	System status, network connection status, application status, etc.

Hardware specifications

Hardware Platform	CPU Core	580MHZ single - core
	Running Memory	128MB (1Gb)
	Program Memory	16MB (128Mb)
Interface Characteristics	Power Interface	DC 6V - 35V (terminal block)
	Ethernet Ports	5 * 10/100Mbps Fast Ethernet ports, LAN/WAN ports with 1.5KV network isolation transformer protection
	Serial Ports	2 selectable RS-232/485 interfaces (terminal block) with 15KV ESD protection
	Antenna Connector	WLAN: RP - SMA x 2
	Reset Button	Pinhole - type reset button
Mechanical Characteristics	Dimensions	129x107x45 mm
	Installation Method	Rail - mounted
	Shell	Metal shell (gold - colored)
	Protection Level	IP30
	Heat - Dissipation Method	Fan-less heat dissipation
	Weight	500g
Environment Humidity	Environment Humidity	5% ~ 95% (no condensation)
	Storage Temperature	-40℃~ 85℃
	Operating Temperature	-20℃ ~ 70℃
Indicator Lights	2*4 indicators	POWER light (red), STATUS light (green), WARN light (yellow), ERR light (red), WiFi indicator light(blue)
EMC Index	Electrostatic Discharge Immunity	GB/T17626.2 - 2018, level4

	Electrical Fast Transient Pulse Group Immunity	GB/T17626.4 - 2018, level4
	Oscillatory Wave Magnetic Field Immunity	GB/T17626.18 - 2016, level4
	Radio - Frequency Electromagnetic Field Radiation Immunity	GB/T17626.3 - 2016, level4
	Surge (Impact) Immunity	GB/T17626.5 - 2019, level4
	Power - Frequency Magnetic Field Immunity	GB/T17626.8 - 2006, level4
Physical Characteristics	Vibration	GB/T2423.10 - 2008
	Shock	GB/T2423.5 - 2019
	Drop	GB/T2423.8 - 1995

Product Size



Company Introduction

Established in 2011, WideIoT is a leading provider of industrial Internet of Things products and industrial digital solutions. It focuses on offering products and solutions such as wireless data terminals, industrial intelligent gateways, equipment remote systems, and industrial application cloud platforms for equipment manufacturers, smart factories, and industry projects. It helps customers achieve digital operation management and tap new values in the industrial Internet.

The products of WideIoT are widely used in various industrial fields, including smart factories, equipment manufacturers, the environmental protection industry, the energy industry, municipal engineering, industrial automation, smart agriculture, and building intelligence. They are favored by top - tier domestic and foreign customers such as BOE, Foxconn, ASD, TCL, Schneider, Shanghai Electric, Shougang Group, Water Affairs Group, and Southern Power, as well as a large number of small and medium - sized enterprises.

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