3onedata
Reliable Connections



IAP2300C Series

DIN-Rail or Wall Mounting
Industrial Wireless Client

- Support 5 100M copper ports, 1 RS-232/485 serial port
- Support 2.4GHz and 5GHz dual bands, and can accommodate up to 4*2.4G/5G dual-band antennas.
- Support multiple wireless network modes such as client, route, AP, bridge and dual-link mode
- Support multiple serial port modes like RealCom, TCP Server, TCP Client, UDP Server, UDP Client
- Support conversion between Modbus RTU/ASCII and Modbus TCP protocol
- Support 12~36VDC power supply input
- Support -40~75℃ wide operating temperature range

Industrial Grade

2.4G
5G

+75℃
-40℃

Modbus

CONNECTING FOR A BETTER FUTURE

3onedata Co.,Ltd.

Introduction

IAP2300C series are 100M industrial wireless clients. This series have 2 products, providing 100M WAN port, 100M LAN port, 2.4G/5G dual-band antenna interface, serial port and other interfaces. This series of products provides one serial port, and supports serial port server or Modbus gateway, so that serial port devices can be equipped with networking capability immediately or realize the conversion between Modbus RTU/ASCII and Modbus TCP protocol. This series product supports DIN-Rail or wall mounting, which can meet the requirements of different scenes.

The network management system supports client, route, AP, bridge and dual-link wireless work modes; Support IEEE802.11a/b/g/n wireless technology, and the maximum overall wireless rate of the dual-band device can reach 600 Mbps; The device supports wireless encryption methods such as WPA/WPA2/WPA3 (personal and enterprise editions), and has various security policies such as SSID hiding, wireless user isolation, IP filtering, MAC filtering, URL filtering, DNAT settings, SNAT settings, ARP binding, DMZ settings, etc. Support virtual AP, that is, one device supports multiple SSIDs. The device supports single-band wireless fast roaming, client efficient roaming, dual-link seamless roaming. And the efficient roaming takes only about 50 milliseconds, which can meet the requirements of rapid roaming and recovery of wireless data in industrial occasions. Dual-link seamless roaming, that is, in the WLAN (Wireless Local Area Network) constituted by multiple AP, user can achieve seamless roaming without conducting the AP switching operation. In serial server mode, each serial port supports 4 TCP or UDP session connections and multiple work modes like RealCom, TCP Server, TCP Client, UDP Server, UDP Client. Under Modbus protocol mode, work modes such as RTU Master, RTU Slave, ASCII Master and ASCII Slave are supported. Up to 256 Modbus TCP Client (Master) devices can be accessed, and 128 Modbus TCP Server (Slave) devices can be connected.

RESET button can restore the device to factory defaults or perform a reboot. Hardware adopts fanless, low power consumption, wide temperature and voltage design and has passed rigorous industrial standard tests, which suits the industrial scene environment with harsh requirements for EMC. It can be widely applied in industrial fields such as AGV vehicles, inspection robots, video surveillance, data acquisition, warehousing, and logistics.

Features and Benefits

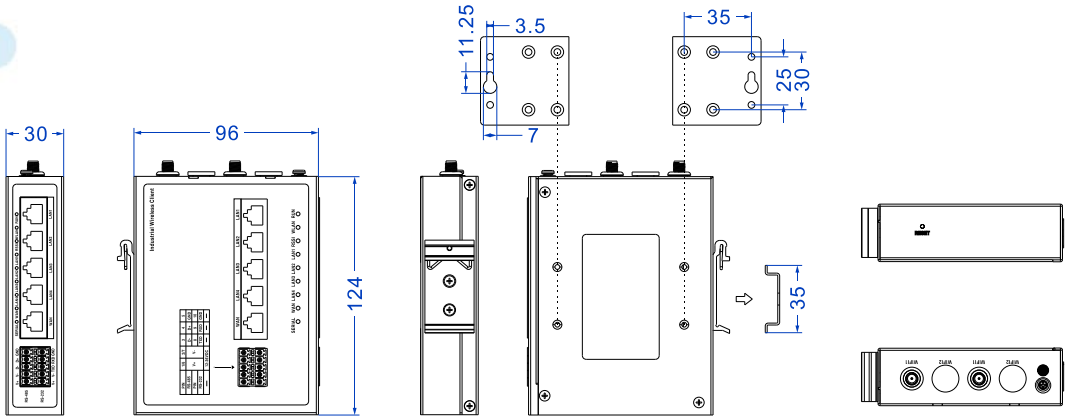
- Support various network modes such as client mode, routing mode, AP mode, bridge, and dual-link mode, and support connection methods like WDS and universal bridge
- The client mode supports wireless NAT connection, and the wireless network can connect with the external network through PPPoE, static IP and DHCP dynamic acquisition, and implement route switch
- Support high-speed wireless connection, the transmission speed of single-band can reach up to 300Mbps, the transmission speed of dual-band can reach up to 600Mbps

- Support multi-AP fast roaming technology, and the switching time of efficient roaming is less than 50ms
- Support SNMP network management and Trap alarm, and allow multicast passthrough
- Support multiple SSID settings and provide SSID hiding function
- Support WPA/WPA2/WPA3 wireless encryption method of both personal edition and enterprise edition and TKIP/AES encryption algorithm
- AC management can specify AC device information to realize directional management
- Support wireless probe, it can realize personal positioning function with location engine
- Roaming proxy can realize roaming proxy host across network segments, effectively avoiding the data interruption caused by the failure to update the forwarding list of upper-level device in time
- Support firewall functions such as IP filtering, MAC filtering, URL filtering, DNAT settings, SNAT settings, ARP binding, DMZ isolation area, etc
- Support wireless user management and user event, and support blacklist and whitelist filtering rules, wireless user online/offline notification
- WMM can achieve better transmission quality of voice, video and other applications in wireless networks
- Network detection can realize network diagnosis and specific network recovery operations
- Support QoS policy to limit the rate of IP or MAC addresses in specified range
- Network diagnosis and troubleshooting could be conducted via Ping and traceroute
- Support serial port log and system log management, and realize system log synchronization to remote log server
- Serial application can realize immediate networking of serial devices and support virtual COM and TCP/UDP network connection
- Support serial port 300bps-115200bps line speed non-blocking communication
- Support multiple serial port modes like RealCom, TCP Server, TCP Client, UDP Server, UDP Client, etc.
- Support RTU Master, RTU Slave, ASCII Master, ASCII Slave and other Modbus protocol modes
- Support up to 256 Modbus TCP client (master) accesses and connect up to 128 Modbus TCP server (slave) devices
- Support virtual and real ID mapping to achieve flexible access between Master and Slave devices

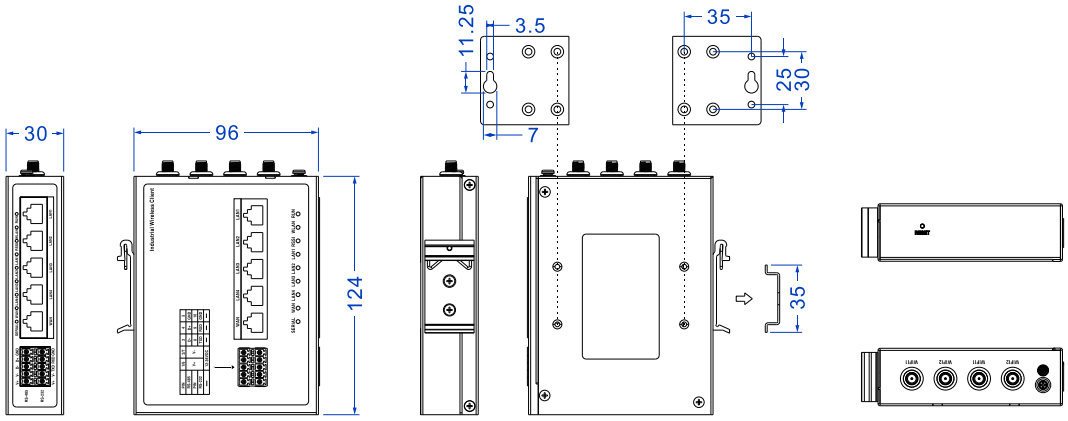
Dimension

Unit: mm

- IAP2300C-2E-5T-1D-P12_36



- IAP2300C-2E2E-5T-1D-P12_36



Specification

Standard & Protocol	IEEE 802.3 for 10Base-T IEEE802.3u for 100Base-TX IEEE802.11a/b/g/n for WLAN IEEE802.11i for wireless security IEEE802.11r for fast roaming IEEE802.11e for WWM
Work Mode	Route mode AP mode Bridge mode (connection: WDS bridge, universal bridge; fast roaming) Client mode (connection: WDS bridge, universal bridge, wireless NAT; fast roaming/efficient roaming) Dual-link mode (connection: Dual-WDS bridge, Dual-universal bridge, Dual-wireless NAT; Seamless roaming) Note: Only 2E2E dual-band devices support dual-link mode.
WLAN	WPA/WPA2/WPA3 personal/enterprise edition encryption mode, hidden

	wireless SSID, wireless user isolation, wireless transmission power adjustment, maximum user limit, packet segmentation and RTS threshold, China/US wireless channel, WDS, WMM
Management	Intranet settings, extranet settings (routing mode/wireless NAT), wireless settings-client, wireless settings-AP, AC management, SNMP management, roaming agent, seamless roaming, QoS management, wireless probe, user settings, system upgrade, timed restart, profile management, system log, log management, wireless user list, Wi-Fi real-time traffic monitoring, serial port application, serial port log, Modbus settings
Security Policy	Wireless users: black/white list of wireless users and event notification of wireless users. Firewall: IP filtering, MAC filtering, URL filtering, DNAT setting, SNAT setting, ARP binding, DMZ setting
Routing/Switching	Static routing (routing mode/wireless NAT)
Troubleshooting	Network detection, Ping, route tracing
Time Management	NTP Client
Radio Frequency	802.11b/g/n: 2.412GHz~2.4835GHz 802.11a/n: 5.18GHz~5.825GHz RF power output: 20dBm Modulation methods: DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM
Receiving Sensitivity	802.11b: -95dBm@1Mbps, -89dBm@11Mbps 802.11g: -90dBm@6Mbps, -74dBm@54Mbps 802.11a: -89dBm@6Mbps, -72dBm@54Mbps 802.11n: -85dBm@MCS0, -67dBm@MCS7
Transmitting Power	802.11b: 23dBm@1Mbps, 20dBm@11Mbps 802.11g/a: 23dBm@6Mbps, 20dBm@54Mbps 802.11n: 23dBm@MCS0, 20dBm@MCS7
Interface	Antenna interface: 2.4G/5G dual-band antenna interfaces, RP-SMA-K (Female) 100M WAN: 10/100Base-T(X) RJ45 port 100M LAN: 10/100Base-T(X) RJ45 port Serial port: RS-232/485 serial port adopts 2*5PIN 3.81mm pitch terminal blocks (serial port occupies 6 pins)

Serial Port Parameter	Standard: EIA RS-232C, RS-485, RS-422 RS-232 signal: RXD, TXD, GND RS-485 signal: D+, D-, GND Baud rate: 300~115200bps Data bit: 8bits Parity bit: None, Even, Odd Stop bit: 1bit, 2bit Directional control: RS-485 direction adopts Automatic Data Direction Control technology Load capacity: RS-485 terminal supports 32-node polling environment Pull up/down resistance for RS-485: 4.7kΩ Work mode: ● Serial server: RealCom Mode, TCP Server Mode, TCP Client Mode, UDP Server Mode, UDP Client Mode, each serial port supports 4 TCP/UDP sessions ● Modbus gateway: RTU Master, RTU Slave, ASCII Master, ASCII Slave, support up to 256 Modbus TCP Client (Master) device accesses and 128 Modbus TCP Server (Slave) device connections
Indicator	Running indicator, WLAN indicator, RSSI indicator, WAN indicator, LAN indicator, serial port indicator
Power Supply	Input voltage: 12~36VDC, support anti-reverse connection Connection method: 2*5PIN 3.81mm pitch terminal blocks (includes 4-pin power supply)
Power Consumption	IAP2300C-2E-5T-1D-P12_36 ● No-load at normal temperature: 1.79W@12VDC ● Full-load at normal temperature: 2.82W@12VDC ● Full-load at high temperature: 4.20W@12VDC IAP2300C-2E2E-5T-1D-P12_36 ● No-load at normal temperature: 3.36W@12VDC ● Full-load at normal temperature: 8.54W@12VDC ● Full-load at high temperature: 9.15W@12VDC
Working Environment	Operating temperature: -40~75℃ Storage temperature: -40~85℃ Relative humidity: 5%~95% (no condensation)
Mechanical Structure	Housing: IP40 protection, metal Installation: DIN-Rail or wall mounting Dimension (W x H x D): 30mm×124mm×96mm Weight:

	• IAP2300C-2E-5T-1D-P12_36: 0.425kg • IAP2300C-2E2E-5T-1D-P12_36: 0.508kg
Industrial Standard	IEC 61000-4-2 (ESD, electrostatic discharge), Level 3 • Air discharge: ±8kV • Contact discharge: ±6kV IEC 61000-4-4 (EFT, electrical fast transient pulses), Level 3 • Power supply: ±2kV • Signal: ±1kV IEC 61000-4-5 (Surge), Level 3 • Power supply: common mode ±2kV, differential mode ±1kV • Signal: common mode±2kV, differential mode±1kV Shock: IEC 60068-2-27 Free fall: IEC 60068-2-31 Vibration: IEC 60068-2-6
Authentication	CE, FCC, RoHS
Warranty	5 years

Ordering Information

Model	2.4G/5G Antenna Interface	100M Copper Port		Serial Port	Power Supply
		WAN	LAN	RS-232/485	
IAP2300C-2E-5T-1D-P12_36	2	1	4	1	12~36VDC
IAP2300C-2E2E-5T-1D-P12_36	4	1	4	1	12~36VDC

Optional Accessories

Type	P/N	Gain (dBi)	Interface	Length (m)	Quantity (pcs)		Remark
					2E	2E2E	
Omnidirectional glue stick antenna	3005040132	2	RP-SMA-J	—	2	4	Standard for 2E; Optional for 2E2E
Omnidirectional glue stick antenna	3005040216	5	RP-SMA-J	—	2	4	Optional
Sucker feeder	3005040092	—	RP-SMA-J to RP-SMA-K	1.2m	2	4	Optional
Sucker feeder	3005040096	—	RP-SMA-J to RP-SMA-K	3m	2	4	Optional
Feeder	3005040182	—	RP-SMA-J to RP-SMA-K	1.5m	2	4	Optional
Feeder	3005040183	—	RP-SMA-J to RP-SMA-K	3m	2	4	Optional

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