CIAP355-3A25-2D

100M Dual-Band Wi-Fi 5 High Power DIN Rail Industrial Wireless AP with 2 x Serial Ports



- Support 1 x 100M WAN/LAN combo port, 1 x 100M LAN port, 1 x RS232, 1 x RS485, 2 x 2.4GHz interfaces, and 1 x 5GHz interface
- Operating modes: Router, AP, Repeater, Bridge, and Client
- Support enhanced roaming in client mode and 802.11k/v/r fast roaming
- Support firewall and service functions including port forwarding, IP/MAC/domain name filtering, NAT, DMZ, internal network penetration, DDNS, VPN, SNMP, and LLDP
- Support networking of serial terminal devices, capable of converting protocols including UDP, TCP, Modbus, HTTPD, WebSocket, MQTT, OPC UA, IEC104, HJ212, and more; supports virtual serial ports
- High-strength aluminum alloy shell, IP30-rated housing protection
- Support DC 9~36V power input with reverse polarity protection
- Operating temperature range: -40°C~+75°C

Product Description

The CIAP355-3A25-2D is a high-power DIN rail industrial wireless AP specifically designed for industrial communication network applications. It features 1 x 100M WAN/LAN combo copper port, 1 x 100M LAN port, 1 x RS232 serial port, 1 x RS485 serial port, 2 x 2.4GHz antenna ports, and 1 x 5GHz antenna port. It supports DC 9~36V power input and features standard DIN rail mounting to meet diverse field network requirements.

The CIAP355-3A25-2D supports web-based configuration for multiple network management functions, including Router/AP/Repeater/ bridge/client mode, universal/WDS bridge/wireless NAT, fast roaming, AC control, dynamic/static/PPPoE dial-up networking, DHCP server, IP/MAC binding, RF settings, black/white lists, static routing, network diagnostics, serial-to-network conversion, firewall, Peanut Shell internal network penetration, DDNS, VPN, SNMP, LLDP, NTP, and more. The system offers multi-level user management, supports local/remote log management, and enables scheduled reboots, configuration backup/restore, firmware upgrades, and factory reset. The hardware employs high-standard industrial protection design with premium industrial-grade components and a durable high-strength aluminum alloy housing. Featuring low power consumption and wide temperature operation (-40°C to +75°C), it passes rigorous functional,

temperature, safety, and EMC testing to meet demanding industrial environments. The product is widely applicable in industrial automation, integrated energy systems, smart cities, intelligent transportation, smart mining, and smart factories.

Features and Benefits

- Support routing mode, enabling WAN connection to external networks via DHCP/static addresses/PPPoE dial-up to connect wired and wireless terminals;
- Support AP mode, converting wired networks into wireless networks for wireless terminal access to wired networks, controllable by an AC;
- Support repeater mode, amplifying upstream wireless networks and converting wireless networks into wired networks for wired and wireless terminal access;
- Support bridge mode, converting wireless networks into both wired and wireless networks for wired and wireless device access;
- Support client mode, converting wireless networks into wired networks for wired device access to wireless networks;
- Support IP address conflict detection, quickly locating conflict sources to prevent network failures;
- Support DHCP server for centralized dynamic management and configuration of user IP addresses;
- Support DHCP-based device management, binding client IPs to MAC addresses to prevent IP changes or conflicts;
- Support 802.11k/v/r fast roaming, reducing information exchange via FT protocol for low latency and enhanced user experience;
- Support TX power adjustment, connection user limits, multiple SSID settings, SSID hiding, user isolation, WDS bridging, etc.;
- Support WEP-OPEN/SHARE-AUTH, WPA/WPA2-PSK encryption methods, CCMP and TKIP encryption algorithms;
- Support wireless user management with black/white lists for filtering wireless users, allowing or blocking specific access;
- Support static routing to precisely control network routing choices, improve network performance, and guarantee bandwidth;
- Support IPv4/IPv6 Ping, IPv4/IPv6 Traceroute, Nslookup, and packet capture for network diagnostics or fault analysis;
- Support firewall functions including SYN-flood defense, port forwarding, IP/MAC/domain address filtering, custom iptables rules, NAT translation, DMZ isolation zone, UPnP, IP/MAC bandwidth control, and QoS services;
- Support NTP client and server functions for clock synchronization or providing a clock source;
- Support hierarchical user permission management with SSH and HTTP/HTTPS access control;
- Record multi-level kernel, application, and network logs with support for local download, scheduled saving, and remote monitoring;
- Support serial-to-network conversion, providing UDP Client/Server/Multicast, TCP Client/Server, Modbus RTU Master/Slave, Modbus ASCII Master/Slave, Realcom MCP/CCP/MW, Pair Connection Master/Slave, Httpd Client, WebSocket Client, MQTT Client, OPC UA Server, IEC104 Server, HJ212 Client, enabling serial-to-TCP, UDP, HTTPD, WebSocket, MQTT conversion, and Modbus RTU/ASCII-to-Modbus TCP, OPC UA, IEC104, HJ212 conversion;
- Support VPN client and server for private network construction. Clients support PPTP, L2TP, GRE, GRETAP, OpenVPN, and other tunneling protocols; servers support PPTP, L2TP, IPSec, and other protocols;
- Support SNMPv1/v2c/v3 and SNMP Trap. Enables centralized management through MIB for information querying, modification, and troubleshooting;

- Support LLDP to obtain LLDP neighbor device information, monitor link status, and facilitate topology management and fault localization.

Specifications

Software	
Network Management	Support traffic statistics, operational status, network status, local address, and other status information or wireless details Support router mode, AP mode, repeater mode, bridge mode, and client mode Support static addresses, DHCP, and PPPoE external network connections Support DHCP server, IP/MAC binding, and wireless user black/white lists Support IP address conflict detection, IPv6 services, 802.11k/v/r fast roaming, and client-enhanced roaming Support static routing Support Peanut Shell internal network penetration, dynamic DNS, SNMP, LLDP, and serial-to-network conversion Support PPTP/L2TP/GRE/GRETAP/TUN/TAP protocol VPN clients Support PPTP/L2TP/IPSec protocol VPN servers
Firewall	Support SYN flood defense, dynamic IP spoofing, MSS throttling, and inbound/outbound data control Support TCP/UDP port mapping for WAN/LAN ports Support IP/MAC/domain name filtering, iptables, NAT, DMZ, UPnP, and IP/MAC/QoS rate limiting
System Management	Support IPv4/IPv6 Ping, IPv4/IPv6 Traceroute, Nslookup, and network packet capture Support time zones, NTP client/server, Crontab, and remote/local

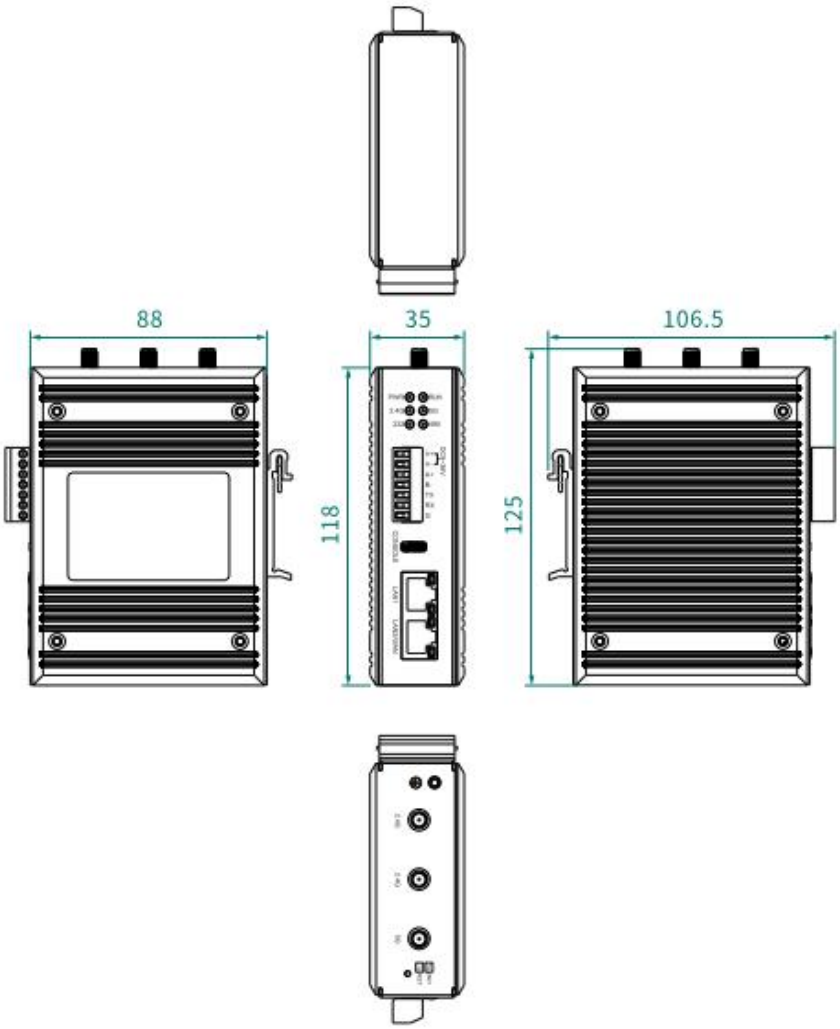
	logging Support user permission management, SSH and HTTP/HTTPS access control, and certificate upload Support online reboot, scheduled reboot, configuration backup/restore, firmware flashing, and factory reset
Wi-Fi	
Wireless Standard	IEEE 802.11b/g/n (2.412GHz~2.484GHz) IEEE 802.11a/n/ac (5.18GHz~5.825GHz)
Working Frequency	2.412GHz~2.484GHz, 5.18GHz~5.825GHz
Channel Bandwidth	20MHz/40MHz/80MHz
TX Power	IEEE 802.11ac：22±2dBm @HT80 MCS9 /5GHz band IEEE 802.11ac：22±2dBm @HT80 MCS0 /5GHz band IEEE 802.11n：24dBm @HT20/40 MCS7 IEEE 802.11g：25dBm @54MHz IEEE 802.11b：28dBm @11MHz
RX Sensitivity	VHT80 MCS9：-58dBm@10%PER(MCS9) /5GHz band HT40 MCS7：-69dBm@10% PER(MCS7) HT20 MCS7：-71dBm@10% PER(MCS7) 54M：-74dBm@10% PER 11M：-90dBm@ 8% PER
Theoretical Transfer Rate	2.412GHz~2.484GHz band: 2T2R maximum transmission rate of 300Mbps 5.18GHz~5.825GHz band: 1T1R maximum transmission rate of 433Mbps Total wireless rate: 733Mbps

Coverage Distance	2.4GHz coverage radius up to 200m (outdoor open/interference-free environment, 5dBi omnidirectional antenna) 5GHz coverage radius up to 300m (outdoor open/interference-free environment, 5dBi omnidirectional antenna)
Interface	
100M WAN	1×10/100Base-T(X) auto-sensing WAN/LAN combo port, RJ45 connector, supporting full/half-duplex operation and auto MDI/MDI-X
100M LAN	1×10/100Base-T(X) auto-sensing RJ45 LAN ports, full/half-duplex, auto MDI/MDI-X
Serial Port	Serial Port Type: 1x RS232 and 1x RS485 serial port Connection Method: 7-pin terminal block with 3.81mm pitch Baud Rate: 600bps to 460800bps Data bits: 7bit, 8bit Stop bits: 1bit, 2bit Parity bit: None, Odd, Even Number of nodes: RS485 supports up to 128 nodes Terminating resistor: Built-in 120Ω resistor for RS485, switchable via internal jumper cap
Antenna Connector	3×SMA-K (male threaded, female socket) antenna connectors, with 2×2.4GHz Wi-Fi antennas and 1×5GHz Wi-Fi antenna.
CONSOLE	1×CONSOLE port, featuring a USB Type-C interface
Button	One-Click Reboot or Factory Reset
Status LED	Power indicator, Operation indicator, 2.4G indicator, 5G indicator, RS232 indicator, RS485 indicator, Ethernet interface indicator
Power Supply	
Power Input	DC9~36V

Power Consumption	≤5.5W@DC24V (full load)
Connection	7-pin 3.81mm terminal block
Protection	Reverse polarity protection
Physical Characteristics	
Dimensions	118×35×88mm (excluding DIN Rail mounting clip and connectors)
Installations	Easy installation on 35mm DIN rails
IP Code	Aluminum alloy housing, IP30 protection rating
Weight	About 0.35 kg (excluding antenna)
Working Environment	
Operating Temp	-40°C ~+75°C
Storage Temp	-40℃~+85°C
Relative Humidity	5%~95% (non-condensing)
Industry Standard	
EMC	IEC 61000-4-2 (ESD): Level 4 (Contact discharge ±8kV, air discharge ±15kV) IEC 61000-4-5 (Surge): Level 3 (Power supply: Common mode ±2kV, differential mode ±1kV; Ethernet Port: Common Mode ±6kV, Differential Mode ±2kV; RS485: Common Mode ±4kV, Differential Mode ±2kV) IEC 61000-4-4 (EFT): Level 4 (Power Supply: ±4kV; Ethernet Port: ±2kV)

Dimensions

Unit: mm



Ordering Information

Standard Model	100M WAN	100M LAN	RS232	RS485	2.4GHz Antenna	5GHz Antenna	Input Voltage
CIAP355-3A25-2D	1	1	1	1	2	1	DC9~36V



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