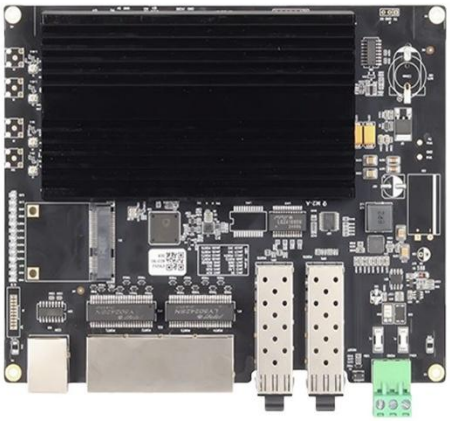
CIAP766-4A25-2GF-Exi

6-Port Gigabit Dual-Band Wi-Fi 6 Embedded Intrinsically Safe Industrial Wireless AP



- 2 x 1G fiber ports (WAN), 4 x 1G copper ports (LAN), 2 x 2.4GHz antenna ports, 2 x 5GHz antenna ports
- Support Wi-Fi 6 dual-band WLAN with OFDMA+MU-MIMO technology
- Operating modes: Router, AP, Repeater, Bridge, and Client
- Support Wi-Fi Mesh and wired Mesh self-organizing network functionality
- Fiber ports support MW-Ring fast ring network redundancy protocol for enhanced network reliability
- Support advanced settings include short protection interval, segment threshold, RTS threshold, pure G mode, and pure 11n mode
- Support firewall and service features include port forwarding, IP/MAC/domain filtering, NAT translation, DMZ, internal network penetration, DDNS, VPN, SNMP, and LLDP
- DC 12~24V power input with intrinsically safe circuit design
- -40°C~+75°C operating temperature range

Product Description

The CIAP766-4A25-2GF-Exi is a 6-port Gigabit dual-band Wi-Fi 6 embedded intrinsically safe industrial wireless switch specifically designed for industrial communication network applications, delivering a dual-band concurrent throughput of up to 2976Mbps. This product offers multiple interface types including 2 x 1G fiber ports (WAN), 4 x 1G copper ports (LAN), 2 x 2.4GHz antennas, and 2 x 5GHz antennas. It supports 1 x DC 12~24V power input, meets intrinsic safety design requirements, and utilizes an embedded installation method to satisfy diverse on-site network needs.

The CIAP766-4A25-2GF-Exi series supports web-based configuration for multiple network management functions, including: Router/AP/Repeater/Bridge/Client modes, Universal/WDS bridging, AC control, Dynamic/PPPoE dial-up networking, Fast Ring networking, Optical port VLAN, DHCP server, IP/MAC binding, 2.4GHz/5GHz band settings, blacklist/whitelist, Static routing, network diagnostics, static/PPPoE dial-up

networking, fast ring networking, fiber port VLAN, DHCP server, IP/MAC binding, 2.4G/5G settings, black/white lists, static routing, network diagnostics, firewall, internal network penetration, DDNS, VPN, SNMP, LLDP, NTP, etc. 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 features a wide-temperature, intrinsically safe design. It supports one-click restart or factory reset via a dedicated key, with indicator lights externally accessible. Utilizing premium industrial-grade components, it operates within -40°C to +75°C. The power supply complies with intrinsically safe circuit design standards, passing rigorous safety and EMC testing to meet demanding industrial applications. The product is widely applicable in industrial automation, integrated energy systems, intelligent transportation, smart cities, and smart mining applications.

Features and Benefits

- Support OFDMA+MU-MIMO technology, enabling multi-user concurrent connections in both the frequency domain and physical space to enhance multi-user high-density access;
- Support Wi-Fi 6 dual-band WLAN, with a theoretical maximum speed of 574Mbps on 2.4GHz and 2402Mbps on 5GHz;
- Support router mode, connecting to external networks via dynamic/static/PPPoE dial-up to enable wired and wireless terminal networking;
- Support AP mode, converting wired networks into wireless networks for wireless terminal access to wired networks, controllable by AC;
- Support repeater mode, amplifying upstream wireless networks and converting them into wired and wireless networks for both wired and wireless terminal access;
- Support bridge mode, converting wireless networks into wired and wireless networks for wired and wireless terminal access;
- Support client mode, converting wireless networks into wired networks for wired terminal access to wireless networks;
- Support DHCP server for centralized dynamic management and configuration of user IP addresses;
- Support DHCP access device management, binding client IPs to MAC addresses to prevent IP changes or conflicts;
- Support switching between multiple country codes for regional channel compatibility;
- Support 2.4GHz+5GHz dual-band operation, transmit power adjustment, user count limits, SSID hiding, user isolation, WDS bridging, etc.;
- Support short protection interval, segmented threshold, RTS threshold, pure G mode, pure 11n mode, etc.;
- Support WPA PSK, WPA2 PSK, WPA3 SAE, and WPA2+WPA3 encryption methods;
- Support wireless user management with black/white lists for filtering, allowing/denying access to specified wireless users;
- Support static routing to precisely control network routing choices, enhance 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 name filtering, NAT, iptables, DMZ, and UPnP;
- 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;

- Records multi-level kernel, application, and network logs, supporting local download, scheduled saving, and remote monitoring;
- Support Peanut Shell internal network penetration, enabling remote device login and management via Peanut Shell dynamic domain names;
- Support dynamic DNS functionality, allowing remote device login and management through designated domain names;
- Support VPN client and server for private network construction. Clients support PPTP, L2TP, GRE, GRETAP, OpenVPN, and other tunnel protocols; servers support PPTP, L2TP, IPSec, and other protocols;
- Support SNMPv1/v2c 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 routing mode, AP mode, repeater mode, bridge mode, and client mode Support static addresses, DHCP, and PPPoE external network connections Support Fast Ring Network and fiber port VLAN Support DHCP server, IP/MAC binding, and wireless user black/white lists Support short protection intervals, segment thresholds, RTS thresholds, pure G mode, pure 11n mode Support static routing, IPv6 services Support Peanut Shell internal network penetration, dynamic DNS, SNMP, LLDP 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 rate limiting
System Management	Support IPv4/IPv6 Ping, IPv4/IPv6 Traceroute, Nslookup, and network packet capture Support time zones, NTP client/server, management port, scheduled tasks, and remote/local logging Support user permission management, SSH access, HTTP/HTTPS, and certificate upload Support online reboot, scheduled reboot, configuration backup/restore, firmware flashing, and factory reset
Wi-Fi 6	
Wireless Standard	Wi-Fi 6 Sixth-Generation Wireless Technology 2.412GHz~2.484GHz 802.11b/g/n/ax 5.15GHz~5.85GHz 802.11a/n/ac/ax
Working Frequency	2.412 GHz to 2.484 GHz (2.4 GHz ISM Band) 5.15 GHz to 5.85 GHz (5.0 GHz ISM Band)
Modulation	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Channel Bandwidth	20MHz/40MHz/80MHz/160MHz
TX Power	2.412GHz~2.484GHz: +19dBm@HE40 -43dB Dynamic EVM +26dBm@HT20/40 MCS7 -30dB Dynamic EVM +28dBm@HT20/MCS0 5.15GHz~5.85GHz: +18dBm@HE80/MCS11 -43dB Dynamic EVM +23dBm@VHT80/MCS9 -35dB Dynamic EVM +24dBm@HT20/40 MCS7 -30dB Dynamic EVM +26dBm@HT20/MCS0
RX Sensitivity	2.412GHz~2.484GHz:

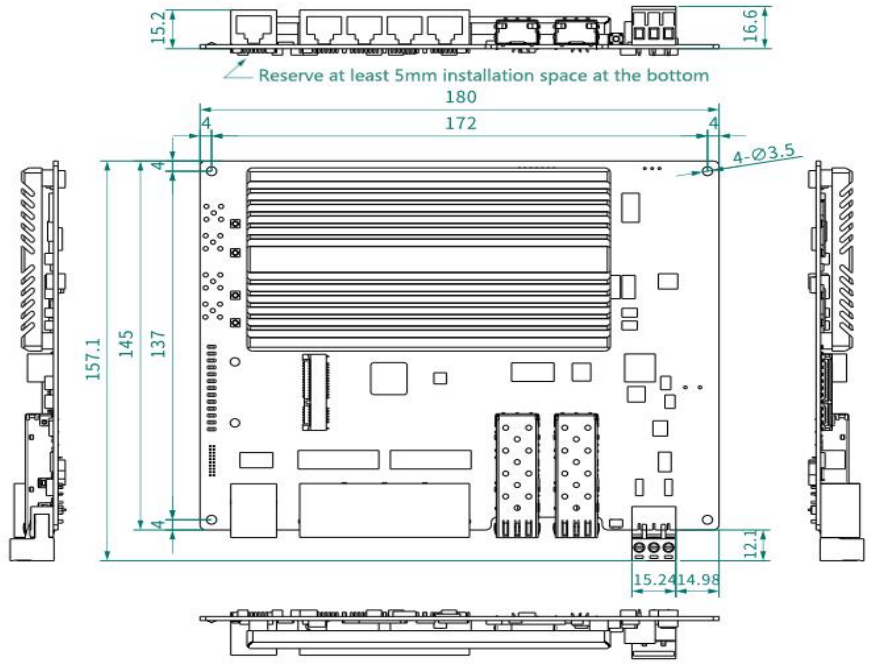
	-68.5dBm (HT40/MCS7/2SS) -63.0dBm (HE40/MCS11/2SS) 5.15GHz~5.85GHz: -64.5dBm (VHT80/MCS9/2SS) -59.0dBm (VHT80/MCS11/2SS) -58.0dBm (HE80/MCS11/2SS)
Theoretical Transfer Rate	2.412GHz~2.484GHz band: 2T2R maximum transmission rate of 574Mbps 5.15GHz~5.85GHz band: 2T2R maximum transmission rate of 2402Mbps at 160MHz bandwidth Total wireless rate: 2976Mbps
Interface	
1G WAN	2×1000Base-X SFP WAN Ports
1G LAN	4×10/100/1000Base-T(X) auto-sensing RJ45 LAN ports, full/half-duplex, auto MDI/MDI-X
Wi-Fi Antenna	2×2.4GHz and 2×5GHz antenna interfaces, supporting either IPEX 1 board-side antenna connectors or SMA-K (male threaded, female socket) connectors
Button	One-Click Reboot or Factory Reset
Status LED	Power indicator, Operation indicator, Alarm indicator, 2.4GHz indicator, 5.8GHz indicator, Bridge indicator, Interface indicator, with support for external signal output
Power Supply	
Power Input	DC12~24V
Power Consumption	<18W@DC12V (full load)
Connection	3-pin 5.08mm terminal block

Protection	Reverse polarity protection, pre-charge
Physical Characteristics	
Dimensions	180×157.1×16.6mm (Maximum size including power terminals)
Installations	Embedded
Weight	About 0.32kg
Working Environment	
Operating Temp	-40°C ~+75°C
Storage Temp	-40°C~+85°C
Relative Humidity	5%~95% (non-condensing)
Industry Standard	
EMC	IEC 61000-4-5 (Surge): Level 2 (Power supply: Common mode ±1kV, Differential mode ±0.5kV; Ethernet port: Common mode ±6kV, Differential mode ±2kV) IEC 61000-4-4 (EFT): Level 3 (Power supply: ±2kV; Ethernet port: ±1kV)

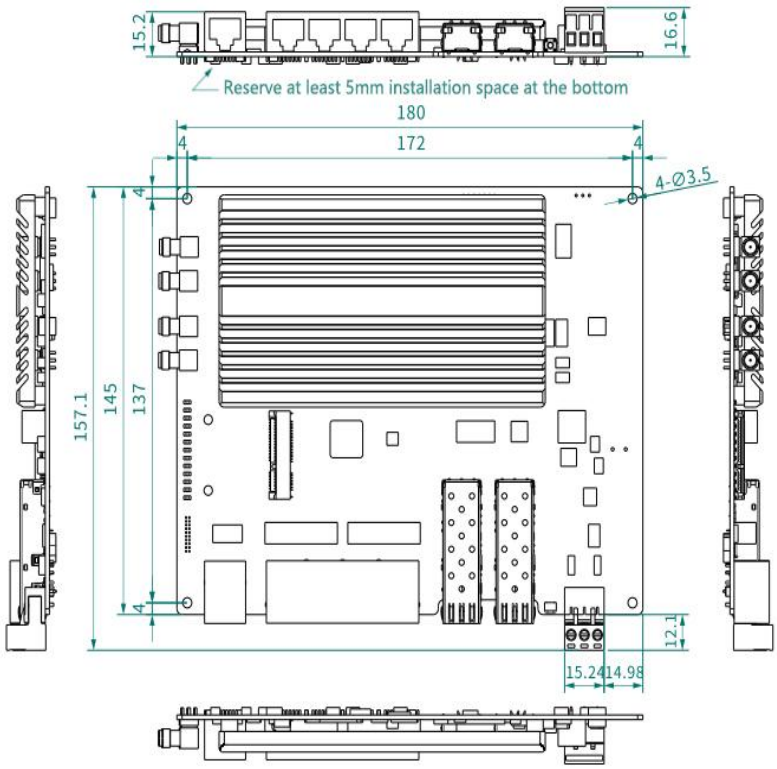
Dimensions

Unit: mm

CIAP766-4A25-2GF-Exi



CIAP766-4A25-2GF-Exi -SMAK



Ordering Information

Standard Model	1G Fiber Port (WAN)	1G Copper Port (LAN)	2.4 GHz Antenna		5GHz Antenna		Input Voltage
			IPEX 1	SMA-K	IPEX 1	SMA-K	
CIAP766-4A25-2GF-Exi	2	4	2	/	2	/	DC12~24V
CIAP766-4A25-2GF-Exi -SMAK	2	4	/	2	/	2	

Contact Us

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