CIAP556R-2A25 Series

5-Port Gigabit Dual-Band Wi-Fi 6 High-Power Industrial Wireless AP



- 1×1G WAN/LAN combo port (Fiber/copper port, copper port supports PoE in), 4×1G LAN ports (copper port) and 2× 2.4GHz/5GHz antenna interfaces
- Support Wi-Fi 6 dual-band WLAN with OFDMA+MU-MIMO technology
- Support five operating modes: Router, AP, Repeater, Bridge, and Client to accommodate diverse application scenarios
- Advanced settings include short protection interval, segmented threshold, RTS threshold, pure G mode, pure 11n mode, etc.
- Support firewall and service features such as port forwarding, IP/MAC/domain filtering, NAT, DMZ, UPnP, DDNS, VPN, SNMP, and LLDP
- High-strength aluminum alloy housing with IP40 protection rating
- -40°C ~+75°C working temperature

Product Description

The CIAP556R-2A25 series is a 5-port Gigabit DIN-rail dual-band Wi-Fi 6 industrial wireless AP that supports 2.4GHz and 5GHz dual-band wireless connections, with a combined dual-band throughput of up to 2976 Mbps. It supports web-based configuration of various network management functions and offers different operating modes, including router, AP, repeater, bridge, and client, to enhance network efficiency, reliability, and security, meeting the demands of a wide range of complex network environments. The WAN port supports either fiber or Ethernet interfaces; the Ethernet port supports IEEE 802.3af/at standard PoE power supply. The LAN ports support wired internal network connections with 10/100/1000 Mbps, full/half-duplex, and MDI/MDI-X auto-negotiation, providing high-bandwidth, low-latency, and highly reliable network communication for industrial automation applications.

CIAP556R-2A25 series features 1×Gigabit WAN/LAN combo port (SFP port or RJ45), 4×Gigabit LAN ports, and 2×2.4GHz/5GHz antenna interfaces. Featuring a reliable industrial-grade design, it operates in temperatures ranging from -40°C to +75°C. Having passed rigorous functional, high/low-temperature, safety, and electromagnetic immunity tests, it meets the demands of diverse network environments and harsh industrial conditions. It is widely applicable in industrial automation, integrated energy, smart cities, intelligent transportation, smart mining, and smart factories.

Product Features

- 1×Gigabit WAN/LAN port (optional fiber or copper port); the copper port supports IEEE 802.3af/at PoE power delivery
- 4×Gigabit LAN ports
- 2×2.4GHz/5GHz antenna ports
- Wi-Fi 6 dual-band WLAN with OFDMA+MU-MIMO technology
- Five operating modes: router, AP, repeater, bridge, and client
- Wi-Fi Mesh wireless and wired self-organizing network functionality
- PROFINET real-time protocol transmission with Layer 2 Tunnel technology
- Enhanced client roaming, wireless NAT, and 5GHz AP prioritization
- AC-controllable, with fast roaming, fast discovery, and bulk management and upgrades
- Short protection time interval, segment/RTS thresholds, and pure G/11n mode
- Country code, transmit power adjustment, user limit, hidden SSID, user isolation, WDS bridging, and black/white lists
- Port forwarding, IP/MAC/domain filtering, NAT, DMZ, UPnP,DDNS, VPN, SNMP, LLDP, and other firewall and service features
- Support centralized network management, bulk configuration, and bulk upgrades
- Standard 5dBi high-gain antenna with high-power design for stronger wireless signals
- High-grade EMS protection ensures normal and stable operation in complex electromagnetic environments, unaffected by external electromagnetic interference
- DC 12–60 V wide-voltage input, non-polarity
- Aluminum alloy housing with efficient heat dissipation, IP40 protection rating

- Operating temperature range: -40°C to +75°C

Technical Specifications

Protocol Standard	
IEEE Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE802.3af/at, IEEE 802.11a/b/g/n/ac/ax
Interface	
1G WAN	1×1000Base-X Gigabit WAN/LAN port, SFP port
1G LAN	4 ×10/100/1000Base-T(X) auto-sensing LAN ports, RJ45 connector, full/half duplex, auto MDI/MDI-X
Antenna Connector	2×2.4GHz/5GHz dual-band Wi-Fi antenna interfaces, using SMA-K (external thread, internal bore)
Console	1×console port, RS232 signal via RJ45 port, for device debugging
Button	Restart or factory reset with one click
Status LEDs	Power indicator, Operation indicator, 2.4G indicator, 5.8G indicator, Bridge indicator, PoE indicator (all coppers), Ethernet port indicators
Wi-Fi6 RF Parameters	
Wireless Standards	IEEE 802.11b/g/n/ax (2.4 GHz), IEEE 802.11a/n/ac/ax (5 GHz)
Working Frequency	2.412 GHz–2.484 GHz (2.4 GHz ISM Band) 5.18 GHz to 5.825 GHz (5 GHz ISM Band)
Modulation	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Channel Bandwidth	20 MHz/40 MHz/80 MHz/160 MHz

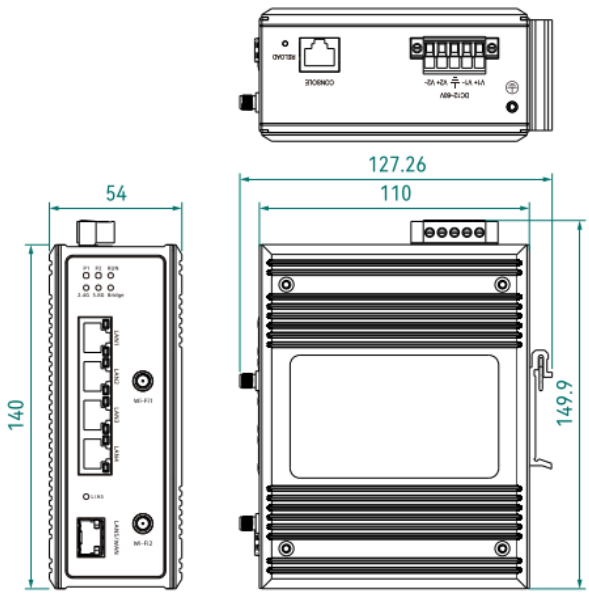
TX Power	2.4 GHz: • +21 dBm HE40 at -45 dB DEVM • +23 dBm MCS7 HT40 at -44 dB DEVM • +25 dBm MCS0 HT20/40 • +27 dBm 1M/11M 5GHz: • +21dBm MCS11 HE80 at -44dB DEVM • +21dBm MCS9 VHT80 at -44dB DEVM • +23dBm MCS7 HT20/40 at -45dB DEVM • +25dBm MCS0 HT20/40 • +27dBm OFDM/6M
Receiving Sensitivity	2.4GHz: • -92.0dBm (HT40/ MCS0/ 1SS) • -74.0dBm (HT40/ MCS7/ 1SS) • -92.0 dBm (HE40/ MCS0/ 1SS) • -62.0 dBm (HE40/ MCS11/ 1SS) 5 GHz: • -97.0 dBm (HT20/ MCS0/ 1SS) • -79.0 dBm (HT20/ MCS7/ 1SS) • -90.0 dBm (VHT80/ MCS0/ 1SS) • -65.0 dBm (VHT80/ MCS9/ 1SS) • -90.0 dBm (HE80/ MCS0/ 1SS) • -60.0 dBm (HE80/ MCS11/ 1SS)
Theoretical Transfer Rate	2.4GHz band: 2T2R, maximum data rate of 574Mbps at 40MHz bandwidth 5GHz band: 2T2R, maximum data rate of 2402Mbps at 160MHz bandwidth Total wireless data rate: 2976Mbps

Operating Mode	Router Mode, AP Mode, Repeater Mode, Bridge Mode, Client Mode
Power Supply	
Input Voltage	DC12~60V, dual-power redundancy, non-polarity The CIAP556R-2A25 model's WAN port also supports standard PoE power supply, compliant with IEEE 802.3af/at standards
Power Consumption	CIAP556R-2A25-GF: Average ≤13.7W @ 24V DC, Peak ≤28.9W @ 24V DC CIAP556R-2A25: Average ≤12.3W @ 24V DC, Peak ≤24.7W @ 24V DC
Connection Method	5-position, 5.08mm pitch locking terminal blocks
Physical Characteristics	
Dimensions	140×54×110 mm (excluding DIN rail and connector)
Installation Method	Easy installation on 35mm DIN rails
Enclosure Protection	Aluminum alloy housing, IP40 protection rating
Weight	About 0.64 kg (1 fiber and 4 copper ports), about. 0.69 kg (all copper ports) (excluding antenna)
Working Environment	
Operating Temp	-40°C ~+75°C
Storage Temp	-40°C ~+85°C
Relative Humidity	5%~95% (non-condensing)
Industry Standard	
EMS	IEC 61000-4-2 (ESD): Level 2 (Contact discharge ±4 kV, Air discharge ±15 kV) IEC 61000-4-5 (Surge): Level 3 (Power supply: Common-mode ±2 kV, Differential-mode ±2 kV; Ethernet port: Common-mode ±4 kV, Differential-mode ±2 kV) IEC 61000-4-4 (EFT): Level 4 (Power supply: ±4 kV; Ethernet port: ±2 kV)
Warranty	
Warranty Period	5 years

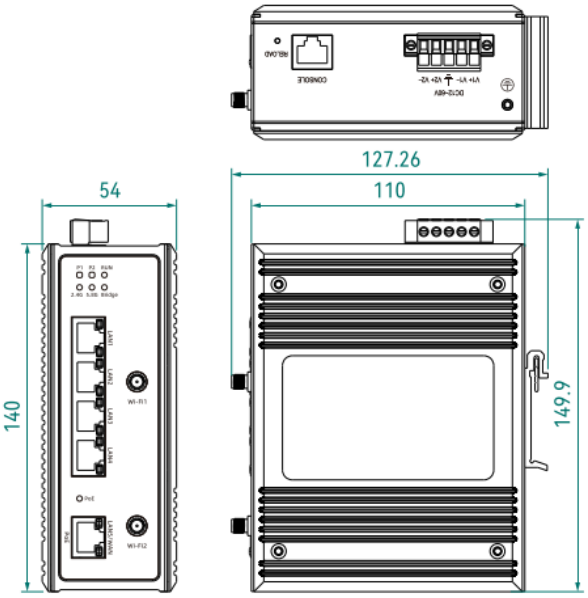
Dimensions

Unit: mm

CIAP556R-2A25-GF



CIAP556R-2A25



Ordering Information

Standard Model	1G Fiber Port	1G Copper Port	2.4GHz/5GHz Antenna Interface	Input Voltage
CIAP556R-2A25-GF	1	4	2	Dual DC12~60V
CIAP556R-2A25	/	5	2	Dual DC12~60V PoE DC48V

Contact Us

COME-STAR COMMUNICATION(WUHAN) CO., LTD.

Address: Puneng Industrial Park, Fenghuang Garden 1st Road, East Lake High-Tech Development Zone, Wuhan, China.

Tel: +86-027-59257958

Mail: sales@come-star.com

Official site: www.come-star.com

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