

Outdoor Wi-Fi 6 Industrial Wireless Base Station



- Supports one electrical port and one optical port; easy application expansion
- Supports dual-band operation (2.4GHz and 5GHz)
- Supports Wi-Fi 6 (802.11ax) to increase system capacity and concurrent connections while reducing transmission latency
- Supports Router, AP, and Mesh modes
- Supports 48V PoE power supply (national standard)
- Supports wide-temperature operation (-40°C to 75°C)
- Supports industrial integrated base station deployment; dimensions: 280mm x 210mm x 80mm
- Supports SNMP, ring networking, and VLAN
- Features faster wireless speeds with bandwidth up to 3000Mbps; utilizes SMA antenna interfaces for enhanced stability to meet various industrial application scenarios

Introduction



The BL3000HW-SFP is a Wi-Fi 6 (802.11ax) Access Point. Built on a Qualcomm Wi-Fi 6 architecture, it delivers simultaneous dual-band service across 2.4GHz (2×2) and 5.8GHz (2×2) frequencies, achieving an aggregate throughput of up to 3Gbps. The 5.8GHz band supports channel widths of 20/40/80/160MHz with a maximum bandwidth of 2400Mbps, while the 2.4GHz band supports 20/40MHz with a maximum bandwidth of 574Mbps. It features a 2.5G network port and an IP67 waterproof rating.

The hardware is designed to meet industrial standards, incorporating robust multi-stage power protection and lightning-protected ports. This ensures reliable long-term operation in harsh industrial environments while mitigating safety risks associated with high power consumption.

It features a sleek, aesthetic design and stable, vibration-resistant N-type RF connectors, supporting the use of external directional or omnidirectional antennas.

The BL3000HW-SFP offers superior wireless reception and strong anti-interference capabilities. It supports millisecond-level seamless fast roaming, facilitating the transition from traditional chemical processing to intelligent operations. With its professional-grade, low-latency roaming technology, the BL3000HW-SFP base station—when paired with the BL5000Air client—delivers a combination of low

latency, high bandwidth, excellent compatibility, cost-effectiveness, and long-range coverage. It is ideally suited for communication environments such as wind power generation, non-coal mining, chemical plants, oil extraction, and robotic inspections, finding wide application in high-bandwidth industrial wireless systems including inspection robots, video surveillance, and autonomous vehicles. From both technical and economic perspectives, industrial applications rely heavily on Wi-Fi technology—supporting functions such as Wi-Fi voice calls, data acquisition and transmission, and wireless video streaming. Our deep expertise in Wi-Fi technology enables us to better serve enterprises operating in industrial environments.

Features and Advantages

- Supports connection modes such as Router, AP, and Mesh
- Client mode supports wireless NAT connections; WAN connectivity and routing functions can be established via PPPoE, static IP, or dynamic DHCP
- Supports high-speed wireless connections with transmission rates up to 575 Mbps (2.4 GHz) and 2400 Mbps (5 GHz)
- Supports 2×2 MIMO and 24 dual-radio antenna interfaces
- Supports SNMP network management and Trap alerts
- Supports multiple SSID configurations and SSID hiding
- Supports WPA/WPA2/WPA3 (Personal and Enterprise) encryption and TKIP/AES algorithms
- Supports AC management with specific AC device targeting for directed management
- Supports roaming proxy functionality across network segments, preventing data interruption caused by delayed forwarding table updates on upstream devices
- Supports various firewall functions including IP filtering, MAC filtering, port forwarding, ARP binding, and DMZ isolation
- Supports wireless user management and event tracking, including blacklist/whitelist filtering and user online/offline notifications

- Supports WMM to ensure high-quality transmission for applications such as voice and video
- Supports wireless network diagnostics and specific network recovery operations
- Supports Ring topology for network redundancy and broadcast storm prevention
- Supports VLAN configuration to simplify network planning
- Supports network diagnostics and troubleshooting via Ping and Traceroute
- Supports management of wireless user logs, system logs, and serial port logs, including synchronization to remote log servers
- Supports immediate network connectivity for serial devices, including virtual COM and TCP/UDP connections
- Supports wire-speed, non-blocking serial communication at rates from 300 bps to 115,200 bps
- Supports serial modes including RealCom, TCP Server, TCP Client, UDP Server, UDP Client, and UDP Range

Hardware Specifications

Model	BL3000HW-SFP
Working Frequency	2.4G+5.8G
Memory	256MB
Flash	128MB+16MB
Antenna	4 antenna interfaces, can be connected to directional/omnidirectional antennas
Power	POE48V
Surge	Surge protection of 6kV and pulse protection of 2kV for the Ethernet and power ports.
Seamless roaming	15ms

Power consumption	15w
Interface	1 * 10/100/1000Mbps LAN/WAN (Support 48V Poe) 1 * 10/100/1000Mbps SFP/ 1*2.5G Electrical port(Optional) 1*reset port
Indicator light	Power supply light, system light, 2.4G status light, 5.8G status light, optical port light
Working temperature	Working temperature: -40~75℃ Storage temperature: -40~85℃ Relative humidity: 5%~95% (no condensation)
Mechanical structure	Installation: Wall-mounted installation Dimensions (width x length x height): 150mm*120mm*1.6mm Weight: 0.2kg (including heat sink)
Water proof	IP67

Software function

Working mode	Route ,AP ,Mesh(Cloud)
11BE	Support 802.11 a/b/g/n/ac/ax/be . TWT. OFDMA .BSS Color
Wlan basic	Supports 16 virtual APs, A-MPDU, A-MSDU, Maximum Likelihood Demodulation (MLD), Maximum Ratio Combining (MRC), Space-Time Block Coding (STBC), and Low-Density Parity-Check (LDPC) coding.
Security Policy	Wireless user black/white lists, user isolation, IP filtering, MAC filtering, port forwarding, 802.1x authentication, MAC address authentication, PSK authentication, SSID-to-VLAN binding

WLAN Extension	STA Management; Client count limits; Link integrity detection; Broadcast Probe Request/Response control; Blocking weak-signal clients; SSID hiding; WLAN RRM; Mesh Doctor; AP/Remote AP; 802.11k/v/r.
Layer 2 and 3 functions	Native IPv6. IPv6 Portal. IPv6 SAVI. ACL (IPv4/IPv6). NAT. PPPoE Client. Local Forwarding. Multicast (IGMP Snooping/MLD Snooping).
Service Quality	802.11e. Support Ethernet port 802.1p identification and marking. Support wireless priority to wired priority mapping. QoS policy mapping. Support L2~L4 packet filtering and flow classification. User bandwidth management. Load balancing. Spectrum navigation. Multicast enhancement. CAC (Call Admission Control) based on the number of users and channel utilization. Application identification
Green and Energy Saving	Green AP Mode. Dynamic MIMO Power Save. U-APSD. SM Power Save
Management and maintenance	AC centralized management; cloud-based management; local access via Web, Telnet, SSH, SNMP, and debug console; intelligent O&M.
Radio Frequency	802.11b/g/n/ax: 2.412GHz~2.4835GHz 802.11a/n/ac/ax: 5.18GHz~5.825GHz 2.4G: 2x2, 575Mbps 5G: 2x2, 2400Mbps RF power output: 27dBm Modulation: DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Transceiver sensitivity	802.11b: -86dBm@1Mbps、-80dBm@11Mbps

	802.11g/a : -82dBm@6Mbps 、 -65dBm@54Mbps 802.11n : -82dBm@MCS0、-64dBm@MCS7 802.11ac: -82dBm@MCS0、-59dBm@MCS9 802.11ax: -82dBm@MCS0、-52dBm@MCS11
Power consumption	802.11b : 27dBm@1Mbps 、 20dBm@11Mbps 802.11g/a : 23dBm@6Mbps 、 20dBm@54Mbps 802.11n : 23dBm@MCS0 、 20dBm@MCS7 802.11ac: 23dBm@MCS0、20dBm@MCS9 802.11ax: 23dBm@MCS0、20dBm@MCS11
Interface	2.5G electrical port: 2 electrical ports, 1 optical port, automatic flow rate control, full/half duplex mode, MDI/MDI-X automatic detection Antenna port: 4 antenna ports
Serial Port	Baud rate: 300bps-115200bps Data bit: 8bit Check bit: None, Even, Odd Stop bit: 1bit, 2bit Direction control: RS-485 direction adopts automatic data flow automatic control technology Load capacity: RS-485 port supports 32-point polling environment Transmission distance: 1200m Serial port server: RealCom Mode, TCP Server Mode, TCP Client Mode, UDP Server Mode, UDP Client Mode, UDP Rang Mode, each serial port supports 4 TCP/UDP sessions
Power consumption	802.11b : 27dBm@1Mbps 、 20dBm@11Mbps 802.11g/a : 23dBm@6Mbps 、 20dBm@54Mbps 802.11n : 23dBm@MCS0 、 20dBm@MCS7 802.11ac: 23dBm@MCS0、20dBm@MCS9 802.11ax: 23dBm@MCS0、20dBm@MCS11

Order info

Model	2.4G/5G Dual-band antenna mount	Interface	Power	WiFi
BL750HW	2	1	POE+DC	WiFi5
BL1800XY	4	1	POE+DC	WiFi6
BL3000HW-SFP	4	Two electrical and one optical	POE+DC9-36V	WiFi6 2.5G
BL3600E-SFP2.5G	4	Two electrical and one optical	POE+DC9-36V	WiFi7 2.5G

External Dimensions



SHENZHEN SHUOTIAN INFORMATION TECHNOLOGY CO.,LTD

Room 409, Building 7, AI Digital Valley, Taoyuan Community, Dalang Street, Longhua District, Shenzhen, China.

Web: www.sailskywifi.com

E-mail: sales@sailskywifi.com/natalie@sskycn.com

Tel: 0755-27209470

PC: 518000