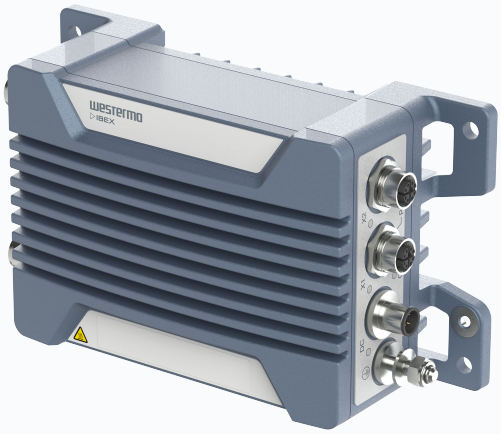
Industrial Wi-Fi 6 Access Point

Ibex-1310 series

- **Compact WLAN access point**
  - Dual Wi-Fi 6 802.11ax WLAN interfaces
  - Concurrent 2.4 GHz and 5 GHz
  - Low power consumption
  - Cybersecurity features supporting critical infrastructure installations
- **Designed for heavy industry usage**
  - IP66 and -40 to +70°C
  - Compact design with M12 interfaces
  - 9.6 to 60 VDC isolated power supply
- **Latest generation 802.11 design**
  - IEEE 802.11ax for maximum efficiency
  - Client management features
  - Flexible and easy setup



CE FC Part 15 EN 50121-4 Railway Trackside EN 61000-6-2 Industrial Immunity EN 61000-6-4 Industrial Emission

The Ibex-1310 is a concurrent dual-band 802.11ax Wi-Fi 6 access point for harsh outdoor industrial applications. The Ibex-1310 delivers reliable, high-speed data transfer with multi-user MIMO and offers 2.5 Gigabit Ethernet M12 X-coded interfaces.

An overall optimised design results in a compact form factor for easy integration in space-restricted installations. The high MTBF of the Ibex-1310 ensures low life cycle costs. The Ibex-1310 is running Westermo's robust and easy-to-use Linux-based IbexOS operating system with the latest cybersecurity features and updates.

The Ibex-1310 is designed to withstand tough environments, being exposed to constant vibration, extreme temperatures, humidity, and demanding electromagnetic environments.

The Ibex-1310 integrates built-in surge arrestors and multi-stage ESD protection to ensure continuous operation during electrical noise, static discharge, or lightning-related surges. This design significantly reduces device failures and maintenance needs, providing long-term availability in harsh outdoor environments.

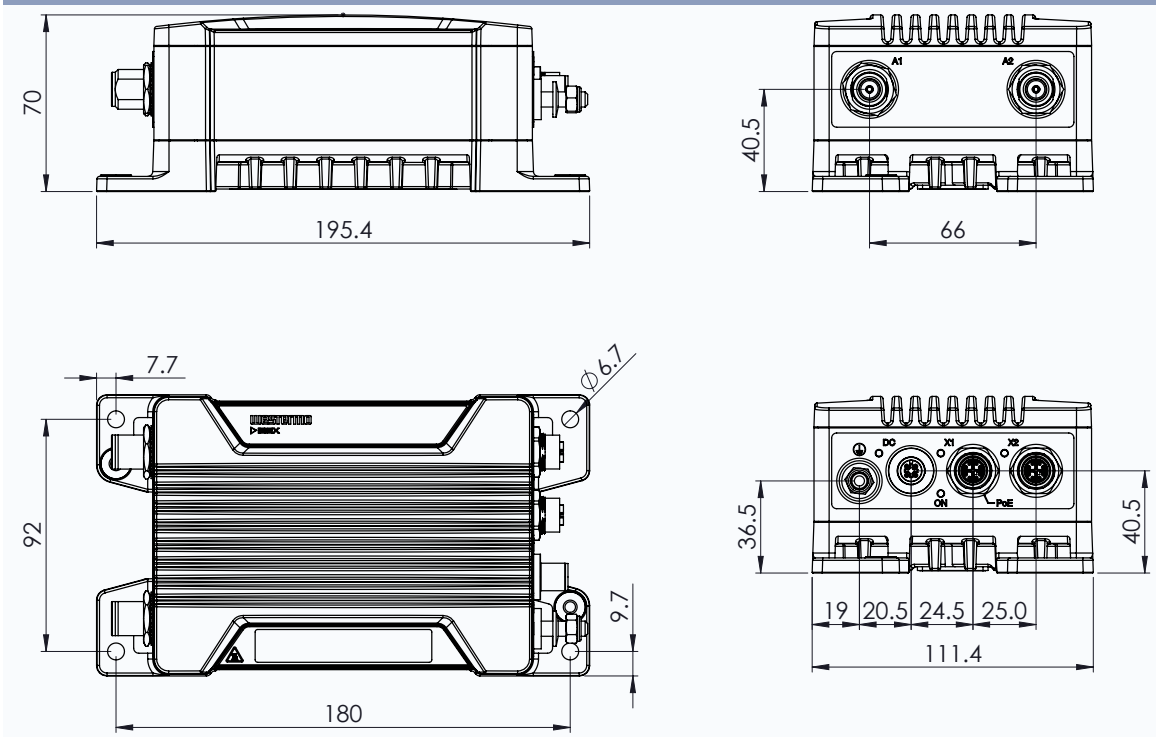
High-quality RF filters eliminate internal and external interference by preventing coupling between radios and blocking strong surrounding signals from cellular networks and other RF sources. This enables all radios to operate simultaneously without performance degradation, ensuring full coexistence with nearby systems.

Highly linear power amplifiers maintain clean signal integrity even at high output power levels. In combination with low-loss RF filters, the access point can transmit up to applicable regulatory power limits while supporting higher-order modulations across all channels. This results in stronger signals, higher throughput, and highly reliable links ideal for demanding industrial environments.

Thorough type testing at independent labs certifies compliance with a wide range of standards, including EN 50121-4.

Specifications - Ibex-1310 series

Dimensional drawing



Technical data	
Dimensions (W x H x D)	195 x 70 x 111 mm (7.68 x 2.76 x 4.37 inches)
Housing	Full metal
Weight	1.45 kg without antennas
Operating temperature	-40 to +70°C (-40 to +158°F)
Ingress protection	IP66
MTBF	424,000 hours 538,000 hours (PoE product variant only)
Rated voltage[a.]	12 to 48 VDC or PoE IEEE 802.3 Class 4
Operating voltage[a.]	9.6 to 60 VDC
Rated power	14 W
PoE	PoE Class 4 (IEEE 802.3at type 1 and 2 PD)

[a.] DC power supply not included in "PoE only" product variants

Interface	
RF antenna	2 x N-type antenna connector for Wi-Fi 6 2.4 GHz and 5 GHz (combiner)
Ethernet	2 x 10/100/1000/2.5G Base-T with M12 X-coded connectors

Wireless	
Operating modes	Access Point, Client, Bridge
Interfaces	Dual-Band Concurrent 2x2 MU-MIMO (total 4 Spatial Streams)
Standards supported	IEEE 802.11b, 802.11g, 802.11a, 802.11n, 802.11ac, 802.11ax
Frequency range	2.400 to 2.4835 GHz (2x2 MU-MIMO) 5.150 to 5.350 GHz, 5.470 to 5.725 GHz, 5.725 to 5.875 GHz (2x2 MU-MIMO)
Data rates supported	2.4 GHz: Up to 802.11ax 40 MHz 2SS BW HE11: 573 MBit/s 5 GHz: Up to 802.11ax 80 MHz 2SS BW HE11: 1201 MBit/s
RF transmit power 2.4 GHz[a.]	Max. conducted transmit power for all data rates: +25 dBm, per port: +22 dBm
RF transmit power 5 GHz[a.]	Max. conducted transmit power: 25 dBm, per port: 22 dBm
Receiver sensitivity per radio[b.]	20 MHz: -94 dBm (HE0), -68 dBm (HE9), -63 dBm (HE11) 40 MHz: -91 dBm (HE0), -65 dBm (HE9), -61 dBm (HE11) 80 MHz: -88 dBm (HE0), -63 dBm (HE9), -58 dBm (HE11)

[a.] Depending on the regulatory limitations and selected antennas

[b.] Typical, all antenna chains connected, temperature 25° C

Features	
Security	Wi-Fi Security Open, WPA2-Personal (CCMP), WPA2-Enterprise, WPA3-Personal (SAE/OWE), WPA3-Enterprise (Suite-B), WPA2/3-Hybrid-Mode (SAE+PSK), 802.11w, 802.1X, Security Log (persistent)
Networking	Fixed fallback IP, IP Aliases, MAC override, 802.1Q VLAN support, Interface Port Protection, Routing Static/Policy/Multicast, Multi WAN support, CARP, DHCP Server/Client/Relay, DNS Server/Client, NTP Server/Client, RSTP, Firewall Filter/Mangle (L2 stateless/L3 stateful), IP Masquerading (NAT/NAPT), Port Forwarding (DNAT/SNAT), Stateless NAT (1-1 NAT)
Wireless	Up to 8 SSID assignments per radio, up to 512 client connections per radio, SSID Hide, AP Client Isolation, 802.11e (WME/WMM), 802.11r, 4addr, 802.1p QoS (L2/L3 mapping), Access Control (ACL), Automated Channel Selection (ACS), static/dynamic VLAN per SSID, BSSID override
VPN	SSL Server/Client, IPsec, OpenVPN Client, Wireguard, GRE/GRETAP, VXLAN
Discovery	LLDP, SSDP, mDNS
Client management	ATF (Air Time Fairness), Client Steering and Load Balancing between 2.4 GHz and 5 GHz, Multi-AP Client Steering, 802.11k, 802.11v
Monitoring	Built-in monitoring sensors and diagnostics, SNMP notifications (TRAP/INFO), Syslog, CLI, WebAPI
Management	SNMP v2c/v3 with USM authentication and encryption support, HTTP/HTTPS web interface and WebAPI with user authentication (local or LDAP), CLI (SSH and Telnet), Certificate Management (SCEP), Dual Firmware Primary/Backup
SNMP MIB Support	MIB-2, RFC1213, HOST-RESOURCES, BRIDGE, ETHERLIKE, IF-MIB, LLDP-MIB, UCD-SNMP-MIB, WESTERMO-SW6-MIB, WESTERMO-SW6-BRIDGE-MIB, WESTERMO-SW6-FIREWALL-MIB, WESTERMO-SW6-ICL-MIB, WESTERMO-SW6-GNSS-MIB, WESTERMO-SW6-NWM-MIB, WESTERMO-SW6-PWN-MIB

Approvals and Standards	
Climate	• EN 50125-3, Railway applications – Environmental conditions for equipment, Part 3: Equipment for signalling and telecommunications
EMC	• EN 50121-4, Railway applications - Electromagnetic compatibility. Part 4: Emission and immunity of the signalling and telecommunications apparatus • EN/IEC 61000-6-2, Immunity industrial environments • EN/IEC 61000-6-4, Emission industrial environments • ETSI EN 301 489-1, Electromagnetic compatibility (EMC) and Radio spectrum Matters (ERM) for radio equipment and services - Part 1: Common technical requirements • ETSI EN 301 489-17, Electromagnetic compatibility (EMC) and Radio spectrum Matters (ERM) for radio equipment - Part 17: Specific conditions for Broadband Data Transmission Systems • FCC-47-15, Radio frequency devices; Subpart B, Unintentional radiators
Mechanical (Shock and vibration)	• EN 50125-3, Outside the track
Radio communication	• ETSI EN 300 328, Wideband transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using wide band modulation techniques • ETSI EN 301 893, 5 GHz RLAN • ETSI EN 300 440, 5.8 GHz, Short Range Devices • IEEE802.11, Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications • FCC-47-15, Radio frequency devices
Safety	• EN/IEC/UL 62368-1, Audio/video, information and communication technology equipment • EN 45545-2, Fire protection on railway vehicles • NFPA 130, Fire protection for fixed guideway transit and passenger rail system

Ordering information		
Art. no.	**Model**	**Description**
3628-13101	Ibex-1310-T2G2.5 EU	Industrial Dual Wi-Fi 6 Access Point, 12...48 VDC, PoE PD
3628-13102	Ibex-1310-T2G2.5 NA	Industrial Dual Wi-Fi 6 Access Point, 12...48 VDC, PoE PD
3628-13111	Ibex-1310-T2G2.5-PoE EU	Industrial Dual Wi-Fi 6 Access Point, PoE PD
3628-13112	Ibex-1310-T2G2.5-PoE NA	Industrial Dual Wi-Fi 6 Access Point, PoE PD
3623-0799	Factory Reset Plug X-code	Accessory