

WLAN ACCESS POINTS



MU-MIMO WLAN Access Point

bintec W2022ac

- 802.11ac access point with MU-MIMO technology
- 867Mbps @ 5GHz and 400Mbps * @ 2.4GHz
- Simultaneous operation in the 2.4 and 5 GHz band
- Flexible management solutions
- Easiest ceiling mounting on system ceilings
- 5-year hardware warranty



bintec W2022ac

802.11ac access point with MU-MIMO technology for the high-performance support of mobile devices.

The bintec W2022ac is an access point based on the latest 802.11ac standard and supports MU-MIMO (Multiple User MIMO). The MU-MIMO technology allows mobile devices (such as smartphones) that have only one antenna to use all the transmission streams of an access point. Compared to 802.11ac first-generation access points, which support only single-user MIMO (SU-MIMO), twice as many mobile devices can connect to the bintec W2022ac without sacrificing performance. This doubles the overall performance.

Together with the WLAN controller integrated in be.IP, commissioning becomes child's play. In larger installations, you have the choice between a local installed bintec WLAN controller solution and the bintec Cloud NetManager*. In addition, the bintec W2022ac is already prepared for the new bintec SD-WAN solution be.SDx.

The new ceiling mount is available as an accessory and allows mounting on suspended system ceilings without drilling and dowels or direct mounting on wood or concrete ceilings. For mounting on the wall, the optional ceiling mount is not necessary.

Five-year warranty on the hardware of the bintec W2022ac.

* In preparation

Variants

bintec W2022ac Part number: 5510000422

Features

Operation Modes	
WLAN AP	WLAN Access Betrieb

Wireless LAN (Radio 1)	
WLAN Standards	802.11b; 802.11g; 802.11n (MIMO 2x2) 2.4 GHz
Receiver Sensitivity @ 2.4 GHz 802.11b	-97dBm
Receiver Sensitivity @ 2.4 GHz 802.11g	-92.5dBm
Receiver Sensitivity @ 2.4 GHz 802.11n 20/40 MHz	MCS0 -91,5dBm; MSC7 -73,5dBm
Tx Power @ 2.4 GHz 802.11b/g	1 Mbps 20dBm; 6Mbps 20dBm; 54Mbps 18 dBm without antenna gain
Tx Power @ 2,4 GHz 802.11n 20/40MHz (2 Streams)	MCS0 20dBm; MSC7 20dBm without antenna gain

Frequency bands 2.4 GHz indoor/outdoor (EU)	2.4 GHz Indoor/Outdoor (2412-2484 MHz) max. 100 mW EIRP (20dBm)
Data rates for 802.11b,g (2.4 GHz)	11, 5.5, 2 und 1 Mbps (DSSS modulation); 54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Data rates for 802.11n, 20 MHz channel bandwidth	MCS0-15 allow up to 150 Mbps PHY rate at 20 MHz channel bandwidth, 2 streams, Short guard Intervall. Up to 173,3 Mbps (QAM-256) together with clients there support QAM-256.
Data rates for 802.11n, 40 MHz channel bandwidth	MCS0-15 allow up to 300 Mbps PHY rate at 40 MHz channel bandwidth (under preparation), 2 streams, Short guard Intervall. Up to 400 Mbps (QAM-256) together with clients there support QAM-256.
Output power limitation	Adjustable in 1dBm steps from 5dBm to 20dBm
Output power @ 2.4 GHz	Max. 20dBm
Automatic Rate Selection (ARS)	Available
Transmission rate	Automatic
Number of spatial streams (802.11n)	1 or 2
Bandwidth (802.11n)	20 MHz / (40MHz with coexistence check under preparation)
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
DTIM Period	Adjustable
Extended Performance Feature	Beamforming, MRC (Maximum Ratio Combining), Block-Acknowledge, STBC (Space Time Block Coding), LDPC (Low Density Parity Check)
Multi SSID	Up to 8 service sets, with virtual access points and own MAC address per SSID
Broadcast SSID	On/off switchable

Wireless LAN (Radio 2)	
WLAN Standards	802.11ac/an; MU-MIMO 2x2; 20/40/80 MHz; 5 GHz
Receiver Sensitivity @ 5 GHz 802.11a/h	6 Mbps -90 dBm; 54 Mbps -73 dBm
Receiver Sensitivity @ 5 GHz 802.11n 20/40/80 MHz	MCS0 -89.5 dBm; MCS7 -72.5 dBm; MCS8 -68.5 dBm; MCS9 -64 dBm
Tx Power @ 5 GHz 802.11a/h	6 Mbps 20 dBm; 54 Mbps 17 dBm without antenna gain
Tx Power @ 5 GHz 802.11ac/n 20/40/80 MHz (2 chains)	MCS0 22 dBm; MCS7 19 dBm; MCS9 14 dBm without antenna gain
Frequency bands 5 GHz indoor (EU)	5 GHz indoor (5150-5350 MHz) max. 200 mW EIRP allowed.
Frequency bands 5 GHz outdoor (EU)	5 GHz outdoor (5470-5725 MHz) max. 1000 mW EIRP allowed.
Data rates for 802.11a,h (5 GHz)	54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Data rates for 802.11n, 20 MHz channel bandwidth	MCS0-15 allow up to 150 Mbps PHY rate at 20 MHz channel bandwidth, 2 streams, Short guard intervall
Data rates for 802.11n, 40 MHz channel bandwidth	MCS0-15 allow up to 300 Mbps PHY rate at 40 MHz channel bandwidth, 2 streams, Short guard intervall

Data rates for 802.11ac, 20 MHz channel bandwidth	Allow up to 173 Mbps PHY rate with two streams or up to 87 Mbps PHY with one stream.
Data rates for 802.11ac, 40 MHz channel bandwidth	Allow up to 400 Mbps PHY rate with two streams or up to 200 Mbps PHY with one stream.
Data rates for 802.11ac, 80 MHz channel bandwidth	Allow up to 867 Mbps PHY rate with two streams or up to 433 Mbps PHY with one stream
Output power limitation	Adjustable in 1dBm steps from 5dBm to 23dBm
Output power @ 5 GHz	Max. 23 dBm (200mW EIRP)
Automatic Rate Selection (ARS)	Available
Transmission rate	Automatic
Number of spatial streams (802.11ac/n)	1 or 2
Bandwidth (802.11n)	20/40 MHz
Bandwidth (802.11ac)	20/40/80 MHz
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
DTIM Period	Adjustable
Extended Performance Feature	Beamforming, MRC (Maximum Ratio Combining), Block-Acknowledge, STBC (Space Time Block Coding), LDPC (Low Density Parity Check)
Multi SSID	Up to 8 service sets, with virtual access points and own MAC address per SSID.
Broadcast SSID	On/off switchable

Security	
WLAN security modes	WPA3 personal (under preparation), WPA3 enterprise(under preparation), WPA3 Open-Enhanced-Transition (under preparation), WPA2 personal, WPA2 enterprise, WPA personal, WPA enterprise, Open
IEEE802.11i Authentisierung und Verschlüsselung	802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, key management, PSK/TKIP encryption, AES encryption, 802.1x/EAP
Multiple RADIUS for WPA/WPA2 Enterprise	Up to 8 different RADIUS servers can be configured and assigned to the individual SSIDs.
Access control list (ACL)	MAC address filter for WLAN clients (white list)
WIDS (Wireless Intrusion Detection System)	Rogue AP detection: Detect foreign APs there using the own SSID, by permanent background scanning. As a result, attack attempts can be detected in time. This functionality requires WLAN Controller or the Cloud NetManager.
WIDS (Wireless Intrusion Detection System)	Neighbor AP Detection: detection of neighbor Aps with possible influence on performance of own network. By detected intrusion: SNMP trap or email alert. This functionality requires the WLAN Controller.
VLAN	Network segments on layer2 possible. Per SSID one VLAN ID available. Static VLAN configuration according IEEE 802.1q; up to 16 VLANs supported.

Inter cell repeating	Inter traffic blocking for public HotSpot applications for preventing of communication radio client to radio client in a single radio cell.
Performance Monitoring	Tracks performance values for the Access Point, the SSID and for the dedicated, connected WLAN clients. This feature helps to analyze performance or to figure out bottlenecks. This feature requires a WLAN Controller or the Cloud NetManager.

Software	
Airtime Fairness	Prevent performance limitation by slower or distant clients, which block the network.
Client Band Select	Shifting of clients to 5 GHz band
Client Management	Client overload protection (too many clients) and shifting of clients to other APs, if the threshold is reached.
Data rate trimming	Enhance the system performance by disable lower legacy data rates (under preparation).
Low RSSI threshold management	Clients with weak Signal (Sticky Clients) can disconnected automatically (under preparation). This improve the roaming behaviour of the clients and enhance the system performance of the WLAN Network.
Roaming	Seamless roaming with IAPP (Inter Access Point Protocol), support according 802.11f
Broadcast SSID	Data prioritization for TOS data, 802.11e/WMM
WMM 802.11e power save	Support of active WLAN clients, which support 802.11e power save.
U-APSD	Unscheduled Automatic Power Save Delivery (under preparation). This functionality contributes significantly to raise battery life of Voice-over-WLAN end devices
Multicast Support	IGMP Snooping, Multicast to Unicast converting of WLAN data.
bintec HotSpot	Supported, Router as HotSpot Gateway required

Energy Saving Functions	
MIMO 1x1 shift down	The radio modules switching automatic to MIMO 1x1 operation, when no client is connected
802.3az support	The ethernet interfaces reduce the power consumption automatically, in case that no device is connected. In the case of the usage of a short ethernet cable, the circuit reduce the transmit power.
LED Mode	The LEDs has three operation mode: Status, Flashing, Off

Local Management	
Graphical user interface	Web-based configuration, monitoring and maintenance via HTTP reachable. The user interface is identical with almost all bintec elmeg products
Configuration export and import	Load and save of configurations; save configuration optionally encrypted
Software Maintenance	Software updates free of charge until 2 years after EOS available. Update via file, HTTP or via direct access to the bintec elmeg upload Server.
Internal Log	Output via web-based configuration interface; filter: subsystem, level, message
Interfaces Monitoring	Statistic information of all physical and logical interfaces
WLAN Monitoring	Detailed displays for radio, VSS. Displayed are per link: MAC address, IP address, Up time, TX packets, RX packets, Noise, SNR
Language support	German, English, Spanish

Management via WLAN-Controller	
WLAN Controller functionality	Managed by a local WLAN Controller, works as WTP.
Discovery protocol	CAPWAP DHCP option according RFC1517 or by static WLC IP address
Background scanning	Background scanning (can be deactivated) for the detection of threads (WIDS) and for the detection of neighbor APs. The results are reported to the WLC.
Performance Monitoring	Sends the performance data of the Access Point, the SSIDs and for each associated WLAN client to the WLAN Controller. This features helps to analyze bottlenecks.
WLC based scheduler	Activate/Deactivate WLAN SSID
Alerting	WLAN Controller based email and SNMP alerting when a AP is down, for new detected threads.

Cloud Management	
Supported Cloud Management Systems	Cloud NetManager and bintec be.SDx under preparation
Zero Touch Provisioning (ZTP)	Zero Touch Provisioning (ZTP) out of the box without customized pre-configuration
Background scanning	Background scanning (can be deactivated) for the detection of threads (WIDS) and for the detection of neighbor APs. The results are reported to the Cloud Management.
Performance Monitoring	Sends the performance data of the Access Point, the SSIDs and for each associated WLAN client to the Cloud Management. This features helps to analyze bottlenecks.
Cloud scheduler	Scheduled software update
Alerting	Cloud based email and SNMP alerting when a AP is down, for new detected threads.

Hardware	
Standards and certifications	Directive 2014/53/EU, 2011/65/EU, 2009/125/EU, EN 60950-1; EN 62311; EN 301489-1; EN301489-17; EN 300 328; EN 301893; EN 50581; EN 60601-1-2 (Medical devices - part 1-2)
LAN / WAN	2 x 10/100/1000 Mbps Ethernet twisted pair, autosensing, auto MDI/MDI-X
WLAN	One radio module IEEE 802.11bgn MIMO 2x2 and a second radio module IEEE 802.11ac/an MU-MIMO 2x2 allow simultaneous operation at 2.4 and 5 GHz.
Antenna	Integrated single band MIMO antenna array with two antenna elements for each radio; 2 dBm gain @ 2,4 GHz; 3 dBm gain @ 5 GHz.
Realtime clock	System time persists even at power failure for some hours.
Power supply	External wall power supply 230V / 12V DC, 1A, with high efficient switching power supply (The wall adaptor is a accessory and not include the shipment).
PoE	Power-over-Ethernet according IEEE 802.3af, compatible with 802.3at PoE injectors
Status LEDs	Status, Activity for WLAN1, WLAN2 and Ethernet, LEDs defeatable
Wall mounting	Integrate at the housing backplane
Ceiling mounting and theft protection	Accessorie required (5520000163) with integrate theft protection via Kensington® lock
Desktop operation	Integrated rubber pads
Dimensions	Approx. 190 mm x 190 mm x 38 mm (width x depth x height)
Weight	Approx. 505 g
Power consumption	max. 8.95 Watt
Environment	Temperature operating: 0°C to 40°C; storage: -10°C to 70°C; rel. humidity 10 to 95% (non condensing)
Warranty	5 years warranty for the hardware. Not for accessories like power adaptor, .. Online RMA procedure.

Documentation	
Documentation	Quick install guide in German and English languages is part of the delivery. Online help in German and English. The complete user manual is available as download.

Content of Delivery

Content of delivery	bintec W2022ac; Quick install guide, security Information. Note: The power supply of the devices work via a Power Adapter which is available as accessory (5500002091) or via PoE.
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Accessories

Part number: 5500002091 Power supply 12V with EU socket

Part number: 5530000338 Gigabit PoE Injector

Part number: 5520000163 Ceiling mounting W2022ac