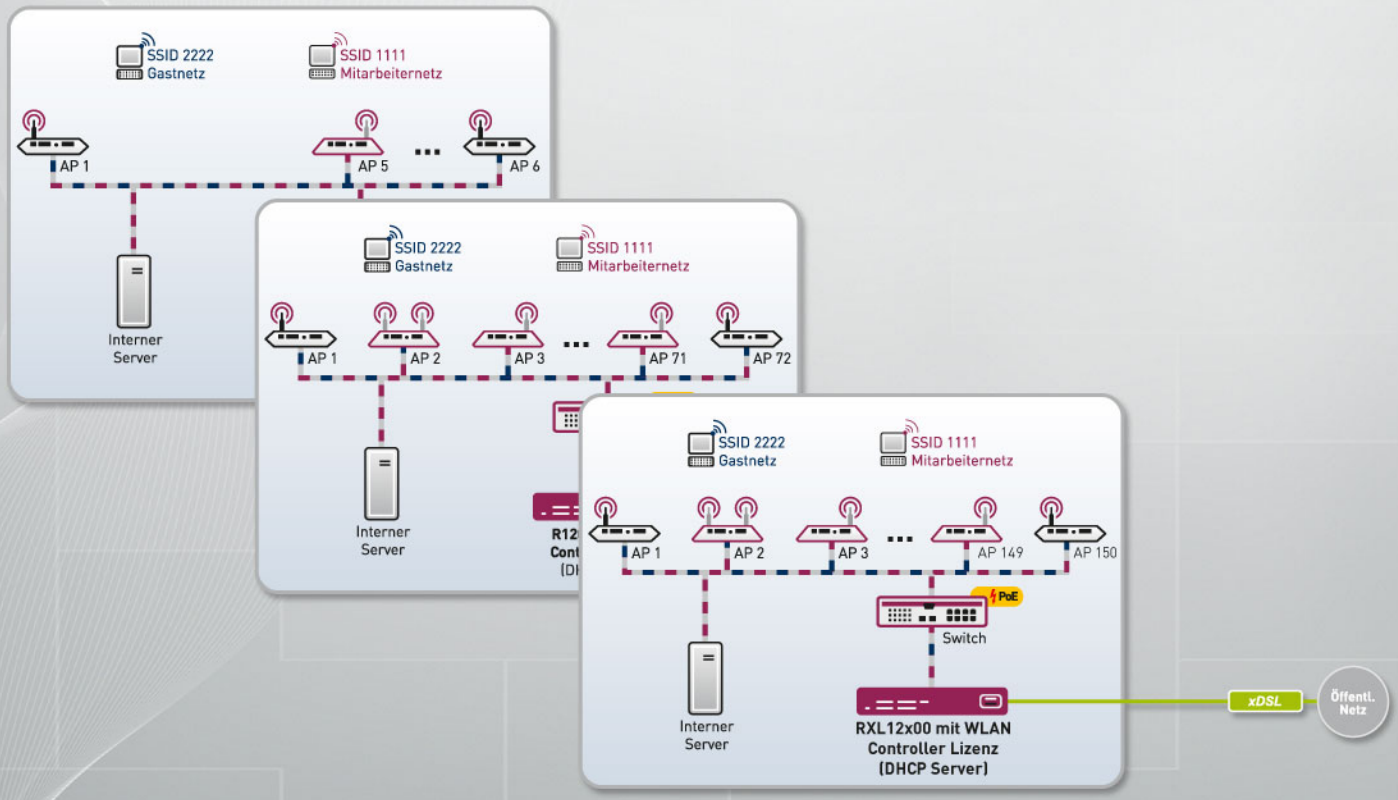
bintec elmeg
Teldat Group Company

WLAN CONTROLLER

... easier, faster, better

bintec WLAN Controller

- Suited for Networks with 2-150 Access Points
- Integrated HotSpot Functionality
- Permanent Monitoring of Functionality
- Performance Management through Load Balancing
- Highest Security due to WIDS and WIPS
- E-Mail Alert in case of Failure of Access Point
- Expandable as Redundant System



bintec WLAN Controller

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The WLAN controller lets SMEs easily configure and keep tabs on their WLAN networks either through automatic RF management or straightforward monitoring. For 7 or more access points, additional hardware is required.

Product description

The bintec WLAN controller enables your customer's WLAN network to be configured in under 30 minutes ... with no particular WLAN skills! The automated RF management system spares you time-consuming searches for free WLAN channels and selects the channels that are best for the system as a whole. The easy-to-use monitoring system enables the system to be seamlessly monitored, and swiftly detects any threat to the network.

The bintec WLAN controller is designed for applications in SMEs and can manage up to 150 access points. No additional hardware is required for the smallest version (up to 6 APs) because the WLAN controller software is run as a licence on a master access point. For up to 12 access points a bintec RS123 or RS353 is required, for up to 72 access points you need a bintec R1202 hardware. For up to 150 access points a bintec RXL12x00 is essential.
To run it, you require a WLAN controller licence on the master access point or on a bintec router.

Features

- Wizard-guided installation in just five steps
- Supports the bintec W1003n, W2003n, W2003n-ext, W2004n, W1002n, WIx40n und WIx65n
- Automatically detects and installs new devices
- Frequency management with automated detection of wireless channels
- VLAN and multi-SSID support
- Any change to the configuration, e.g. adding a new SSID, and redistribution to devices only takes a few clicks and can be done in a few seconds.
- Configuration management: the configuration is saved centrally and is automatically redistributed e.g. if there is a power failure.
- The monitor function includes detecting APs in the neighbourhood and monitoring clients. In addition the monitor function provides a wireless cell based location of clients.
- The wireless network is roaming-capable, so it is ideal for VoWLAN telephony - voice-ready, as it were.
- Automated firmware rollout for all managed devices

Easy plug-and-play installation

The WLAN controller automatically detects new access points and they can be integrated into the WLAN network with a couple of clicks. A description of the relevant location can be added to any AP to simplify identification. Upgrades or changes to an existing configuration are rolled out to all managed access points within seconds.

Automated radio cell planning

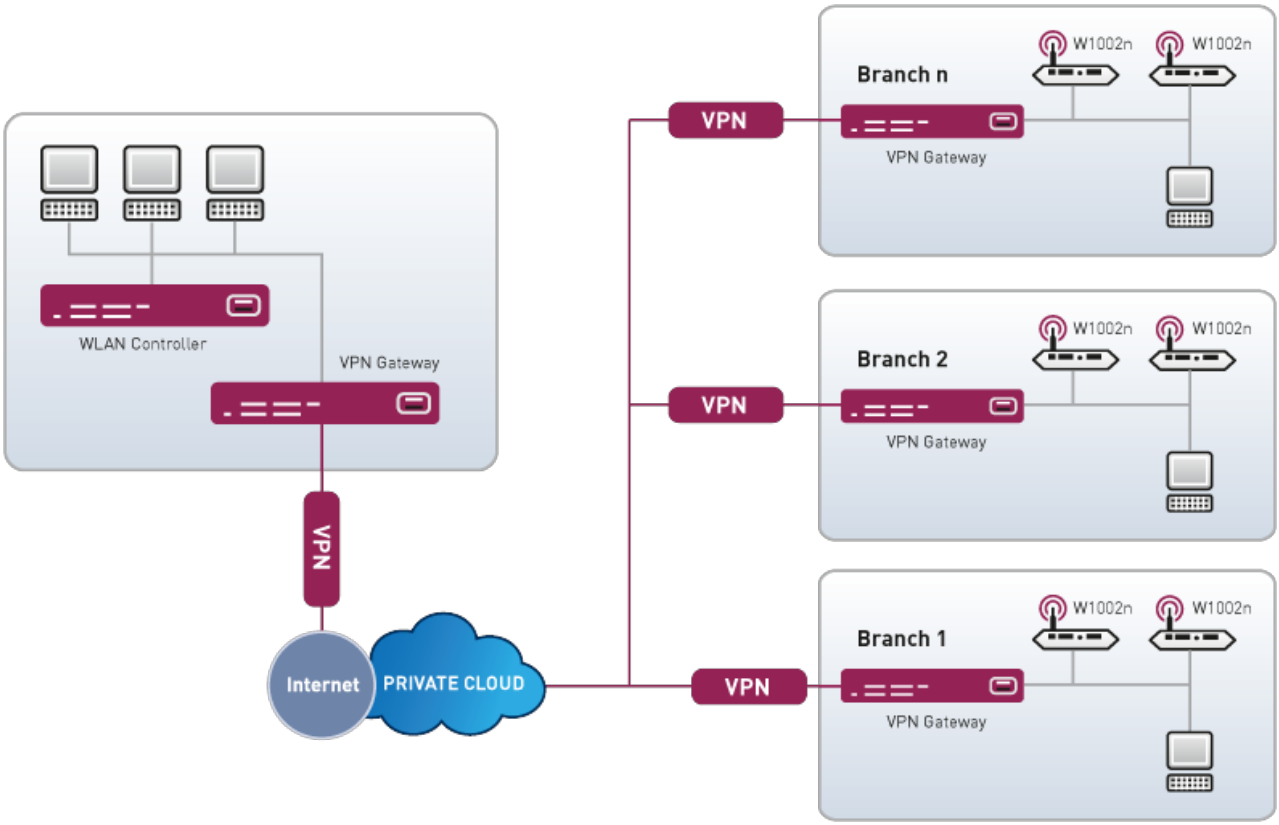
The bintec WLAN controller simplifies time-consuming radio cell planning. When installing the WLAN network, the WLAN controller and the access points in the network jointly determine the optimal transmission channel in each case, taking into account the current signal-to-noise ratios and field strengths of the access points in the neighbourhood. Depending on the operating mode involved, the bintec WLAN controller determines the channel spacing for non-overlapping operations. For example, with 802.11gn networks, a channel spacing of four channels in the 2.4 GHz band is always complied with, i.e. for example 1, 6, 11. Experienced administrators can, of

course, also define their own channel plans.

To round off automatic frequency allocation, you can display the third-party neighbourhood APs detected by your own access points.

WLAN management from the private cloud

The new features of the WLAN Controller now make it possible to monitor WLANs from your private cloud. The WLAN Controller-located at company headquarters, for instance-communicates with the managed access points at branch locations through one or more VPN tunnels. The Controller's new features ensure the APs continue to operate even when the connection between headquarters and a branch location is lost, allowing the network to continue to perform flawlessly. When an AP loses its connection to the WLAN Controller, it does not automatically restart, and the access point's configuration is not lost. The access point consequently does not go offline, and the WLAN's availability is maintained. Only after the connection to the Controller has stabilized does the AP restart and receive the latest configuration from the Controller.
No matter how far away an access point managed over a VPN is, the WLAN network will continue to operate and will always use the most recent configuration.



Top-level security

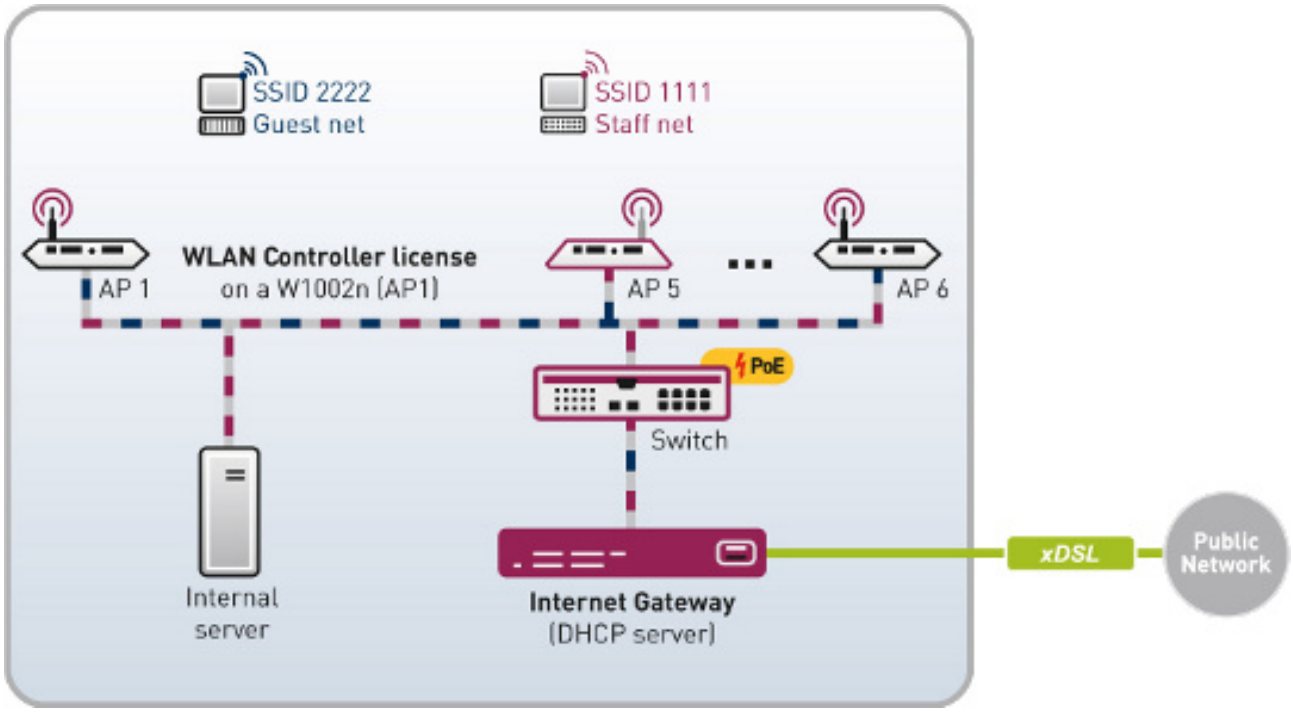
The security algorithms for all bintec 802.11n access points are Wifi Alliance certified in terms of interoperability and security. However, the bintec WLAN controller goes one step further and takes security to the next level. The keys and access codes can easily end up in the wrong hands if the device is stolen, especially when devices have to be mounted in easily accessible, public locations (e.g. stairwells). The bintec WLAN controller only saves the devices' configuration, and thus the keys and access codes too, in the managed access point's volatile RAM. After any power failure, the configuration stored in the bintec WLAN controller is very swiftly automatically reloaded to the managed access point.

E-mail alarm in case a access point goes offline

The new e-mail alarm functionality enables seamless monitoring — if a managed access point goes offline, the controller sends a text message to an administrator's mobile phone.

Seamless roaming for voice over WLAN telephony

Where professional WLAN telephones are in use, the bintec 802.11n access points and bintec WLAN controller enable seamless roaming. Roaming is always important when a larger WLAN network is being operated and there is a requirement for a WLAN telephone to be able to switch between access points during the call without interrupting the call. The bintec WLAN infrastructure comprising bintec 802.11n access point and bintec WLAN controller enable roaming in under 40 milliseconds even with WPA2-PSK encryption where professional WLAN telephones are being used. The human ear can hardly detect this brief interruption. The bintec WLAN devices also support the power-saving U-APSD (Unscheduled Automatic Power Save Delivery) algorithm, which is important for WLAN telephony.



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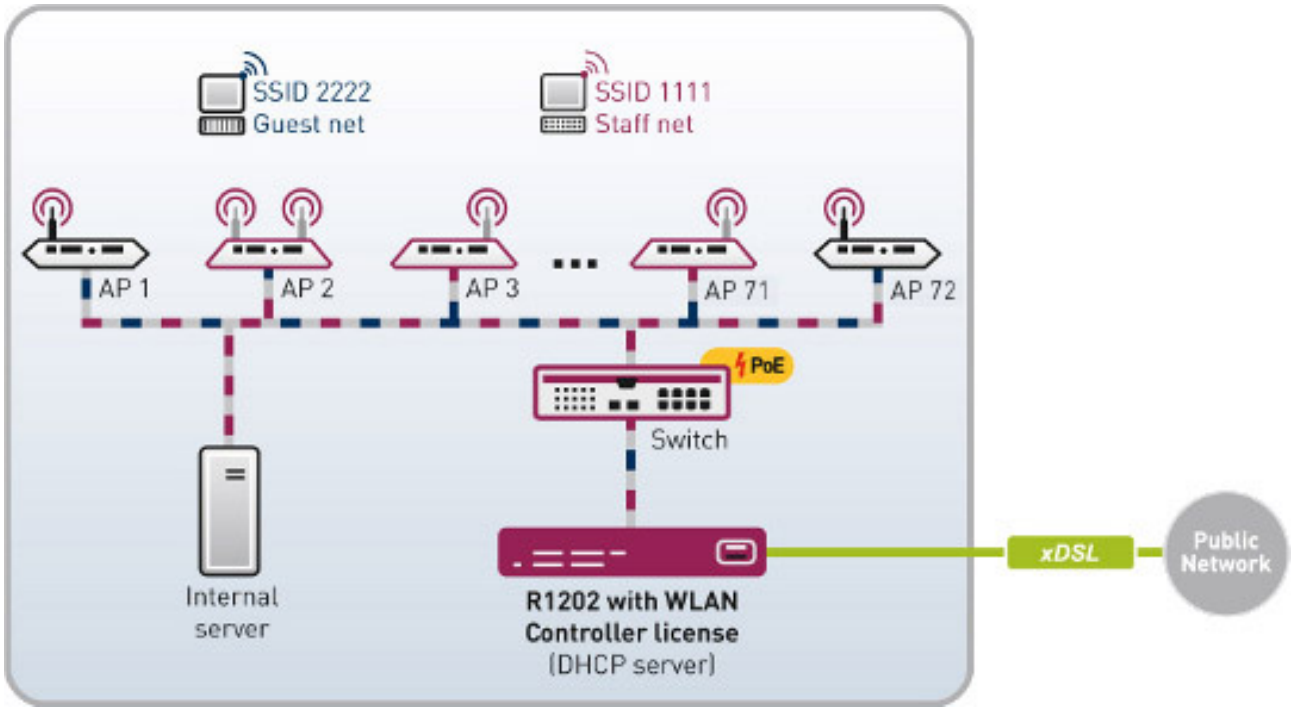
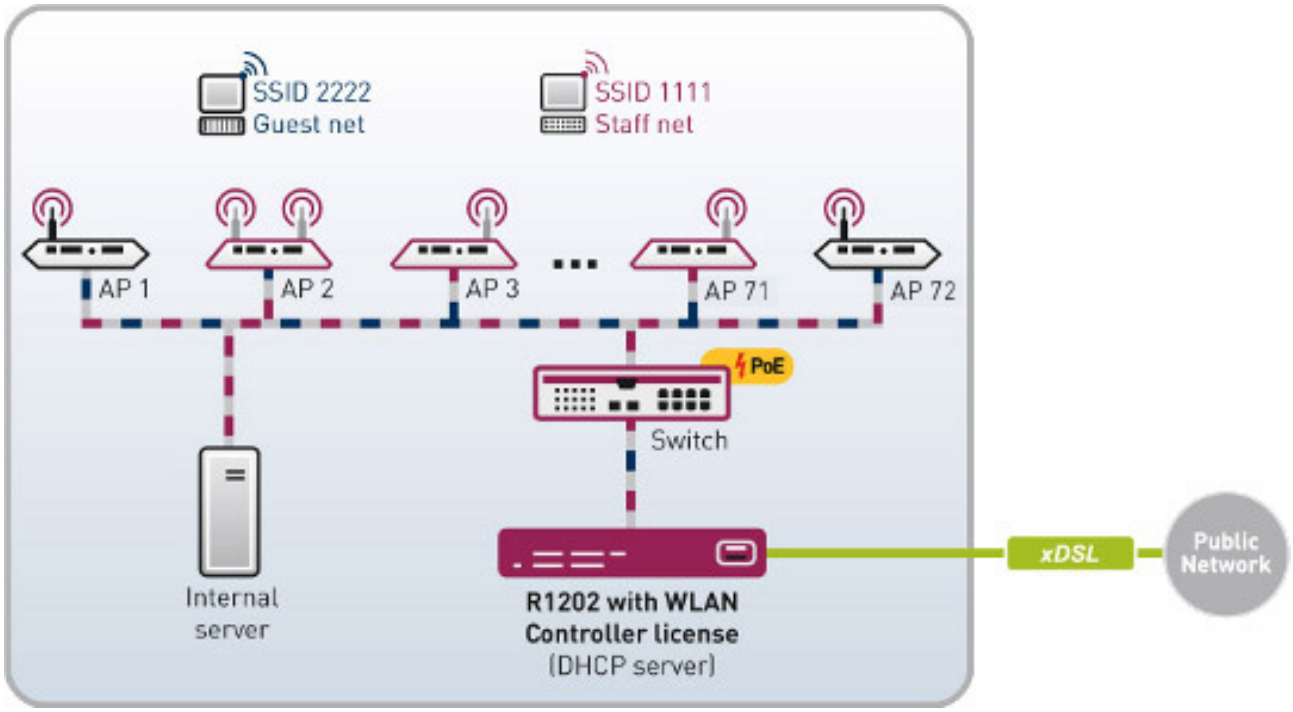
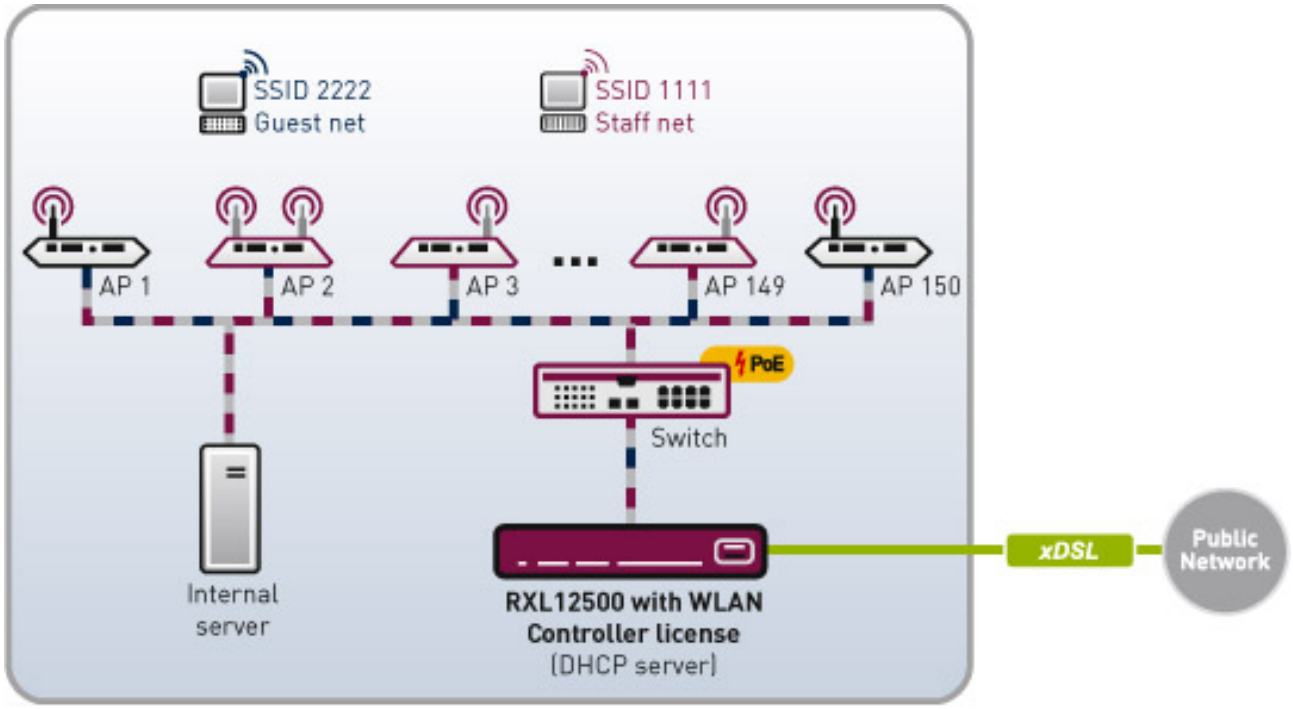


For up to 12 access points, the bintec RS series (RS123, RS353xx) hardware is required. To run it, you require a WLAN controller licence on a bintec router.



For up to 72 access points, the bintec Rxx02 series (e.g. RS1202) hardware is required. To run it, you require a WLAN controller licence on a bintec router.



For 150 access points, a bintec RXL series hardware is required. To run it, you require a WLAN controller licence on RXL series.

Variants

WLAN-Contr.-Bundle 6xW1002n (5500001026)	WLAN Controller Bundle: 6 Access Points bintec W1002n (5510000165) and WLAN Controller license (5500000911)
WLAN-Contr.-Bundle 10xW1002n (5500001027)	WLAN Controller Bundle: 10 Access Points bintec W1002n (5510000165), 1 bintec R1202 (5510000210) and 2 WLAN Controller licenses (5500000943)
WI-License WLAN Contr. 6AP (5500000942)	WI series license WLAN Controller for 6 AP
W1002n-License WLAN Contr. 6AP (5500000911)	W1002n license WLAN Controller for 6 AP
License WLAN Contr. 6AP (5500000943)	WLAN Controller license for 6 Access Points (APs) or for the extension with 6 APs for the products: RS123x, RS353xx. Rxxx2 and RXL12x00.

Features

Operation Modes

WLAN access point	WLAN access point functionalities

Wireless Controller

Standards	CAPWAP according RFC5417, RFC5418
Detection of new devices (AP)	DHCP Option 138 (CAPWAP)
WLAN Controller Hardware	W1002n/W1003n/W2003n/W2003n-ext/W2004n/WIx040n/WIx065n as WLAN Controller can handle up to 6 AP; Rxx02 as WLAN controller can handle up to 72 AP, RXL series can handle up to 150 AP
Supported devices	W1002n, W1003n, W2003n, W2003n-ext, W2004n, WIx040n, WIx065n
WLAN standards	802.11n (Mimo 2x2 2x3 3x3); 802.11b; 802.11g; 802.11a; 802.11h
WLAN radio modules	1 or 2 depending of the device
Frequency bands 2.4 GHz indoor/outdoor (EU)	2.4 GHz Indoor/Outdoor (2412-2472 MHz) max. 100 mW EiRP (Germany). The permitted transmission power may vary in other countries.
Frequency bands 5 GHz indoor (EU)	5 GHz indoor (5150-5350 MHz) max. 200 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
Frequency bands 5 GHz outdoor (EU)	5 GHz outdoor (5470-5725 MHz) max. 1000 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
WLAN modes	2.4 GHz operation: 802.11b only; 802.11g only, 802.11b/g/n mixed; 802.11b/g/n mixed long; 802.11b/g/b mixed short; 802.11b/g/n; 802.11g/n; 802.11n only; 5 GHz Operation: 802.11a only; 802.11a/n; 802.11n only
Automatic Rate Selection (ARS)	Available
Transmission rate	Automatic fallback or fixed transmission rate selectable
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 802.11a,h (5 GHz)	54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)

Wireless Controller	
Data rates for 802.11n (2.4 / 5 GHz)	MSC0-15 enables physical rates up to 150 Mbps at 20 MHz channels bandwidth, 2 streams, short guard interval; MSC0-15 enables physical data rates up to 300 Mbps at 40 MHz channels bandwidth, 2 streams, short guard interval
Output power (without antenna gain)	Adjustable in following steps: 5, 8,11,14,16 und 17.5 dBm. Maximal power varies depending on data rate and frequency band.
Number of spatial streams (802.11n)	1 or 2
Bandwidth (802.11n)	20/40 MHz only for 5GHz (bundling of two adjoining 20 MHz channels to one 40 MHz channel)
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
DTIM Period	Adjustable
Multi SSID	Up to 8 service sets defineable
Broadcast SSID	On/off switchable
VLAN	Network segments on layer2 possible. Per SSID one VLAN ID available. Static VLAN configuration according IEEE 802.1q; up to 32 VLANs supported.
Channel plan	All, Auto, User defined
TPC	TPC (transmission power control): For 5 GHz, automatic reduction of transmission power according EN301893
DFS	DFS (dynamic frequency selection): For 2.4 and 5 GHz, channels are dynamically used depending on operating grade.
RTS/CTS	RTS/CTS threshold adjustable
Encryption WEP/WPA	WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
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
Inter Cell Repeating	Inter traffic blocking for public hot spot (PHS) applications for preventing of communication radio client to radio client in a single radio cell.
Roaming	Seamless roaming with IAPP (artem Inter Access Point Protocol)
Fast roaming 802.1x (access point mode)	Pre authentication and PMK caching allows fast roaming by 802.1x encryption
Broadcast SSID	Data prioritization for TOS data, 802.11e/WMM
WMM Power Save (U-APSD)	Support of active WLAN clients, which support 802.11e power save
DHCP	DHCP client, DHCP server, DHPC relay
ACL Whitelist	For each SSID central via the controller manageable
Monitor Active Clients	Displaying of the acitve client include information about AP, MAC-Address, SSID, Signal, State, Uptime
Monitor Neighbor AP	Displaying of the Neighbor AP include the information about Detected via AP, MAC-Address, SSID, Signal, Channel, Last seen
Maintainance: Software Download for managed devices	Via HTTP, TFTP server or direct via the bintec elmeg server. All Slave-AP are get new firmware in parallel.

Maintenance	
Configuration a. maintenance: WLAN Controller configuration via	HTTP, HTTPS
Configuration a. maintenance: WLAN Controller - Configuration roll out	Wizard based installation in just five steps
Configuration a. maintenance: Software update	Software updates free of charge; loadable via file, HTTP or via direct access to the bintec elmeg server; enable/disable automatic software update via scheduler
Monitoring: Internal Log	Output via web-based configuration interface (http/https); filter: subsystem, level, message
Documentation	German and English documentation on CD and in the Internet for download

Accessoires

Access Points and Bridges	
WLAN-Contr.-Bundle 10xW1003n (5510000351)	WLAN Controller Bundle contains 10 Access Points bintec W1003n (5510000321) , 1 bintec R1202 (5510000210) and 2 WLAN Controller license (5500000943)
WLAN-Contr.-Bundle 10xW2003n (5510000352)	WLAN Controller Bundle contains 10 Access Points bintec W2003n (5510000324) , 1 bintec R1202 (5510000210) and 2 WLAN Controller licences (5500000943)

Consulting	
WiFi SITE SURVEY (DL0005)	Basic site survey, incl. expenses and journey in inland, for services abroad additionally travel expenses, max. 8 hrs. on-site incl. benefits according datasheet
SURVEY-FD (DL0006)	Charge for each following day on-site for DECT or WiFi Site Survey