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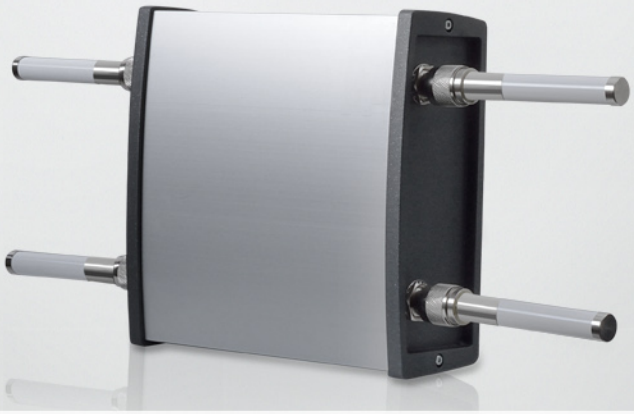
Teldat Group Company

WLAN ACCESS POINTS



Outdoor WLAN Access Point

bintec WO2003n

- Works as stand-alone AP, managed AP, WLAN client, Bridge
- Two radios 802.11abgn with Mimo 2x2
- Power supply 12-24V DC or PoE (802.3af)
- Aluminium housing IP65 protected for outdoor usage
- Large temperature range -25˚C to +70˚C
- Wall and pole mounting possible

bintec WO2003n

Outdoor WLAN Access Point

Rugged Outdoor WLAN Access Point with two independent radios, can be used as WLAN-AP, WLAN HotSpot, WLAN Client or to build a wireless Bridge connections

Product description

The bintec WO2003n is an IP65-rated access point with two independent radio modules for outdoor use. The robust, water-resistant metal housing and wide operating temperature range from -25° to +70° make the device suitable for use in extreme environmental conditions. The high durability standards of the device are also reflected in its ports. For the antenna jacks, for instance, weatherproof Type N connectors are used.

The device is equipped with two 802.11 abgn radio modules with MIMO 2x2 technology, enabling raw data rates of up to 2x300 Mbps. The operating modes and frequency bands of the radio modules can be selected independently of one another, enabling a wide range of applications.

The bintec WO2003n as a HotSpot for internet access in public spaces

With the optional bintec HotSpot, the WO2003n is ideal for providing internet access in public spaces. If you're using multiple access points, the bintec WLAN Controller offers additional load balancing capabilities to ensure good performance when handling large numbers of wireless clients. The second radio module can be used either as a wireless backbone in this scenario or transmit over a second radio channel in order to increase the number of WLAN clients that can be accommodated.

The bintec WO2003n for logistics

If you need to provide wireless coverage across a large outdoor storage location, for instance to connect handheld scanners to your inventory management system, the bintec WO2003n in conjunction with a bintec WLAN Controller is an ideal solution. The WO2003n's use of the IAPP protocol together with careful radio cell planning ensures optimal roaming behavior for your wireless scanners in this scenario. Here as well, the second radio module can be used as a wireless backbone.

The bintec WO2003n as a wireless bridge

In conjunction with our comprehensive line of directional antennas, WO2003n routers can be used in pairs to set up very powerful wireless bridges.

Management

To configure individual devices, all you need is an internet browser. The device's integrated web server allows for rapid configuration and monitoring via the graphic user interface. If you are using the devices as access points however and plan to install more than two of them, a managed network that includes a bintec WLAN Controller is the preferred solution.

WLAN Controller

Optimize your WLAN network by using a bintec WLAN controller. The bintec WLAN controller allows configuration of your customers WLAN network in lesser than 30 minutes ... and this without deeper WLAN know-how! The automatic RF management system relieves you the time killing search for free WLAN channels and selects the best channels for the system.

For smaller WLAN networks up to 6 APs bintec access points are able to take over the function of the WLAN controller by themself and work as quasi master APs. For networks with up to 12 APs you will need a bintec RS series router as WLAN controller hardware. You are able to manage bigger WLANs with up to 150 AP by using a bintec RXL12x00 as WLAN controller hardware.

Mounting and installation

The bintec WO2003n is suitable for standard wall mounting or, using the optional pole mounting hardware, can be mounted directly on an antenna mast.
The unit can be powered either via PoE or a 100-240V plug-in adapter.

As antenna is the Antenna-Kit (5520000145) as accessory available. The antenna kit contains two Omni antennas with water resistant N-type socket and swivel feature. The antenna can be directly attach to the Access Point without any cables. For the WO2003n two antenna kits are required. As an alternative an external antenna with higher gain can be used. In this case the adapter cable CAB-N-N-0,5m (5500001764) is required.

Features

Wireless LAN	
WLAN standards	802.11n (Mimo 2x2); 802.11b; 802.11g; 802.11a; 802.11h
Frequency 2,4 GHz Indoor/Outdoor	2,4 GHz Indoor/Outdoor (2412-2484 MHz)
Frequency 5 GHz Indoor	5 GHz Indoor (5150-5350 MHz)
Frequency 5 GHz Outdoor	5 GHz Outdoor (5470-5725 MHz)
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
WLAN Modes	5 GHz Operation: 821.1a only; 802.11a/n; 802.11n only
TX Power @ 2,4GHz (2 streams)	up to 18dBm without antenna gain
TX Power @ 5GHz (2 streams)	up to 17dBm without antenna gain

Wireless LAN

RX Sensivtiy	up to -90dBm without antenna gain
TX Power adjustable	5dBm, 8dBm, 11dBm, 14dBm, 17dBm, max.
Channel selection	Automatic or manually
Automatic Rate Selection	Supported
Transmission rates	Automatic
Number of spatial streams (802.11n)	1 or 2
Multi SSID	Up to 16 SSID per radio with own MAC address for each SSID. Each SSID can assign to a VLAN to separate the traffic.
Broadcast SSID	Selectable on/off

Software

Airtime fairness	Optimizing the throughput when slow clients or clients there are far away are connected
Client load balancing	Avoid overloading of the AP in the case that many users are connected. Allow the movement of clients to other AP in case of high load.
Limitation of the number of clients	From 1 up to 250 clients. To allow more than 32 clients is practicable, if the application there requires only low bandwitdth.
Throughput limitation	A maximum throughput can be defined for each client. Defineable or each SSID
TPC	TPC (Transmission Power Control): For 5 GHz, automatic TX power reduction according EN301893)
DFS	DFS (Dynamic Frequency Selection) for 5 GHz
WMM 802.11e QoS	Data priority for TOS tagged data according 802.11e/WMM
WMM 802.11e Power Save	Supports WLAN Clients there supporting 802.11e power save and U-APSD
Roaming	Seamless Roaming through IAPP (Inter Access Point Protocol) support according 802.11f useful for VoWLAN phones and for Wireless Barcode scanner.

Security

Wireless security	Open, WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
IEEE802.11i authentication and security	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
Access control list (ACL)	MAC address filter for WLAN clients (white list) and dynamic and static blacklist. Black list function requires WLAN Controller
WIDS (Wireless Intrusion Detection System)	Rogue AP detection: detect foreign Aps, which try to spy out data via SSIDs by permanent background scanning. When the attack is detect a SNMP trap or a email alert can be send. This functionality requires WLAN Controller.
WIDS (Wireless Intrusion Detection System)	Neighbor AP detection: Detect AP in the neighborhood, which can reduce the performance at the own network. In case of detection a SNMP trap or a email alert can be send.This functionality requires WLAN Controller.

Security

WIPS (Wireless Protection Detection System)	Rogue Client Detection: detection and protection: detect conspicuous clients, which try to intrude or interfere the wireless network.In threat case blocking by dynamic black list. This functionality requires WLAN Controller.
VLAN	Network separation at layer 2. For each SSID ist one VLAN ID possible. Static VLAN configuration according IEEE 802.1q, supports up to 32 VLANs.
Intercell repeating	Inter traffic blocking for public HotSpot (PHS) applications for preventing of communication WLAN client to WLAN client in a single radio cell

Administration / Management

HTTP/HTTPS	Web based configuration
Configuration management	Via Telnet, SSH, HTTP, HTTPS, SNMP
SNMP	SNMP (v1, v2, v3), USM Model, VACM Views, SNMP Traps (v1, v2, v3) selectable, SNMP IP access list configurable
SNMP Configuration	Complete Management according MIB-II, MIB 802.11, Enterprise-MIB
SSH Login	Support SSH V1.5 and SSH V2.0 for secure connection of terminal application
Configuration backup/restore	Backup/Restore to/from file
Configuration backup/restore	Optional encrypted backup file
Configuration backup/restore	Optional automatic backup via scheduler
WLAN Controller operation	Manageable with the bintec WLAN Controller according CAPWAP (DHCP option RFC1517)
Master-AP operation	Integrated WLAN controller for 5 additional bintec AP

Hardware

LAN/WAN Interface	Two interfaces 10/100/1000 Mbps, autosensing, auto MDI/MDIX
Ethernet connectors	Two water protected RJ-45 Harting Push Pull (HPP V4 RJ45 GL)sockets
Antenna sockets	Four water protected N type antenna sockets
Power Supply	12-24 Volt DC power supply (M12 socket) required or PoE according 802.3af or 802.3at (Power supply or PoE injector not include)
Power supply range (DC)	9-36 Volt max. 1,4 A with over voltage protection, galvanic isolated
Typical power consumption	ca. 8,7 Watt
Power consumption in networked standby	7,3 Watt (after 5 minutes inactivity)
Dimensions	140 x 178 x 66 mm
Weight	ca. 1300 g
Wind load (@210 km/h	82 N
Temperature conditions	-25°C to +70°C
Protection class	Protection class IP65, dust and water protected

Hardware

Mounting	Rugged aluminum housing
Mounting	Wall mounting included. Pole mounting for poles up to 70 mm as accessory available
Theft protection	Integrated at the wall mounting unit

Content of Delivery

Content of delivery	1 wall mounting unit, 3 protection caps for antenna socket, 1 protection cap for M12 power socket, 1 protection cap for Harting Push Pull RJ45 socket, 1 Harting Push Pull (HPP V4 RJ45 GL) plug assembly kit, Quick install guide

Operation Modes

WLAN AP	WLAN Access Point Stand-alone or WLAN Access Point managed via WLAN Controller or WLAN Master-AP could managed up to 5 more AP
WLAN Bridge	WLAN Bridge link Point-to-Point or Point-to-Multipoint
WLAN Client	WLAN Client operation

Software Features for AP stand-alone operation

Captive portal function / HotSpot	Additional external RADIUS server or bintec HotSpot license required
Internet Dial-up	PPPoE, PPTP
NTP	NTP Client, NTP Server, manually
DNS	DNS client, DNS server, DNS relay
DHCP	DHCP client, DHCP server, DHPC relay
VPN	IPsec, L2TP, PPTP, GRE

Software features for WLAN Client operation

Functionallty	Layer 2,5 Bridge for connect several IP based device and one non-IP device to a wireless network.
Wireless security	Open, WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA2 Personal
Roaming behavoiur	Selectable (no, slow, normal, fast, customized roaming). For fast moving clients (i.e. vehicles) to be archive a seamless roaming. This feature is realized by scanning the relevant channels in the background.
Scanning functionallty	Show a list of available AP in the area
Station list	For one SSID, manually configuable or configuable by using the scanning function
Monitoring	Detailed information for each link (Uptime, Signal, Noise, Data rate, ...)

Software features for WLAN Bridge operation

Configuration	Applicable as Access-Point/Bridge-Link Master or as Bridge-Link Client
Application	For Point-to-Point or for Point-to-Multipoint (up to 8) applications.
Wireless security	WPA2 Personal
DFS	DFS (Dynamic Frequency Selection) for 5 GHz works without interruption every 24h
Monitoring	Detailed information for each link (Uptime, Signal, Noise, Data rate, ...)

Approvals

CE approval	R&TTE Directive 1999/5/EG; EN 60950-1 (IEC60950); EN 300 328; EN 301 489-17; EN 301 489-1; EN 301 893

Supervision

Syslog	Syslog Client with different level of the messages
eMail Alarm	Automatic eMail if any defined event occurs
SNMP Traps	Statistic information for all physical and logical interfaces
WLAN Monitoring	Detailed information about the radio, SSIDs, Bridge link, clients. For each link MAC address, IP address, TX packets, RX packets, signal for each antenna, Signal/Noise value, data rate.
WLAN History view	Show the performance values based on WLC, AP, SSID, Client level help to detect any bottlenecks
Scheduler	The following events are plan able: device reboot, activate/deactivate interfaces, activate/deactivate SSIDs, trigger of software update, trigger of configuration backup

Accessoires

Pick-up Service / Warranty Extension

Service Package 'large' (5500000811)	Warranty extension of 3 years to a total of 5 years, including advanced replacement for bintec elmeg products of the category 'large'. Please find a detailed description as well as an overview of the categories on www.bintec-elmeg.com/servicepackages.

Antennas

ANT-N-11-5G-dualpo (5500001542)	Outdoor Dual-Polarization antenna for 802.11n application, Wall or pole mounting, 5GHz, 11dBi, N jack
ANT-N-20-5G-dualpo (5500000551)	Outdoor Dual-Polarisations antenna for 802.11n applications, wall or mast mounting, 5GHz, 20dBi, N jack
ANT-Omni-8-Dual (5510000234)	Dual band antenna for outdoor/indoor, frequency range: 2.4 / 5-5.8 GHz, gain: 8dBi, socket: N-jack

Antennas, Cables and Adapters

Cable CAB-N-N-0,5m (5500001764)	0,5m N plug to N plug LMR400. To connect a antenna with N jack to the WO-Series devices.
CAB-N-3m (5500000846)	3m N plug N jack ULA400
CAB-N-6m (5500000847)	6m N plug N jack ULA400
CAB-N-9m (5500000848)	9m N plug N jack ULA400

Add-ons

Gigabit PoE Injector (5530000082)	PoE Injector for LAN 10/100/1000 Mbps, 100-240V, EU plug, output 48V/0.35A; suitable for Access Points, IP phones, etc.
Antenna-Kit WOx003n (5520000145)	Two swivel outdoor dual-band WLAN antennas with N-plug suitable for the WO-Series
WO-Mounting Kit (5520000144)	Pole mounting unit for WO series for poles up to 70 mm
PS-EURO-WO-Series (5520000146)	Wall power supply with EU-plug, shipped together with a M12 connector for self assembly fits for the WO-Series Access Points
ACC-EMP-N-dual (600499)	Surge Arrester N plug N jack