bintec elmeg
Teldat Group Company

IP ACCESS ROUTER

Universal VPN router with VDSL2 (opt.)/ADSL2+/WLAN 802.11n

bintec RS353jw

- WLAN- 802.11n, 2,4 and 5 GHz
- VDSL2 (opt.) / ADSL2+ / ISDN Modem- (Annex B/J)
- VDSL2 upgradeable by license
- Vectoring ready
- 5x IPSec tunnel (optional 30 channels), HW acceleration
- Integrated Power Supply
- Flexible mounting: Desktop or 19"- Rack

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The bintec RS353jw with its combined VDSL (opt.)/ADSL2+ Modem (Annex B/J), dual-band WLAN (802.11n) and ISDN S0 interface is ideal for use in home offices and at small branch locations.

Product description

The bintec RS353jw is a powerful professional VPN router for high-speed internet access. With its combination VDSL2 and ADSL 2+ modem, this model gives small and mid-sized companies the foundation they need to establish state-of-the-art, robust internet connectivity. The integrated 802.11n wireless module also provides wireless data connectivity for enterprise applications.

The RS353jw delivers advanced security, flexibility, and exceptional performance across a wide range of applications. The combination VDSL2 and ADSL2+ modem supports both the Annex B (ADSL over ISDN, used primarily in Germany) ADSL standard as well as all digital mode Annex J without a splitter. It is also compatible with the popular "all IP" service of Deutsche Telekom. The system also has a state-of-the-art dual-band wireless module which operates at 2.4 and 5 GHz. This module supports all current wireless standards including 802.11 a/b/g/n. The MIMO 2x2 technology allows for maximum raw data rates of up to 300 Mbps.
This router boasts a fan-less metal housing, offers long-term reliability for business-critical applications, and makes an ideal access router for small and mid-sized enterprises (SMEs), branch locations, and home offices.

Thanks to the included 19" rackmount conversion bracket, customers can easily integrate this model into 19" server racks or operate it on the desktop. Rack mounting is further simplified by the device height of exactly one rack unit and the integrated power supply.

In addition to the VDSL2 /ADSL2+ modem, the bintec RS353jw also provides five Gigabit Ethernet ports which can be independently configured for use in a LAN, WAN, or DMZ. The device's integrated ISDN port can be used for remote configuration access or as an ISDN backup interface. The included five licenses for hardware-accelerated IPSec tunnels provide comprehensive high-speed VPN functionality and allow for secure connections to branch locations and off-site employees. A USB console port allows access to basic router features in critical environments.
With its wide range of WAN connectivity options, the RS353jw raises the bar for flexibility among access routers.

Smart design

The fan-free metal housing is a proven, rugged design that has set bintec devices apart from the competition for years. The integrated power supply and 19" conversion bracket now also make it easy to install in a 19" rack.

Maximum performance

The bintec RS353jw is based on a powerful platform with unrivaled capabilities. Customers with VDSL2 connections can double their data transfer rates by taking advantage of VDSL vectoring technology. High speed interfaces handle heavy local network traffic with ease. You can

establish links between separate global locations over secure, encrypted VPN tunnels.

Airtight security

The bintec RS353jw not only delivers outstanding performance, it also provides a comprehensive range of security features. With five simultaneous IPSec channels available, you can establish secure links between branch locations, subsidiaries, and home offices. Optional the quantity of VPN tunnels can be extended to 30 tunnels. The integrated IPSec implementation in bintec routers allows the use of pre-shared keys as well as digital certificates as recommended by Germany's Federal Office for Information Security. This lets you use a public key infrastructure and ensures maximum security. An object-oriented stateful inspection firewall offers packet filtering to provide additional protection against attacks.

Professional management

A graphical user interface is the primary means of configuring the router. This fast, web-based interface makes it easy to set up routers using the integrated configuration wizard. Administrators can also manage the devices locally or remotely using configurable telnet, SSH, ISDN login, or GSM dial-in. The bintec DIME Manager is a free software tool that allows administrators to manage up to 50 devices at once.

Ready for the future

Businesses can easily integrate the RS353jw into existing company networks. This bintec router also allows for a gradual migration to the new IPv6 internet protocol. The integrated VDSL2 modem of the bintec RS353jw supports VDSL bandplan 998 including profiles 8b and 17a, the standards used in Germany and most other European countries. The modem also supports automatic failover to ADSL2+. With easy migration from ADSL2+ to VDSL2 and support for VDSL vectoring, the professional-grade bintec RS353jw router is a sound investment in your organization's future.

WLAN Controller, HotSpot and adult content filtering

The router also includes all the functionality of the bintec WLAN Controller. The bintec WLAN controller lets you configure and monitor small- and mid-sized WLAN networks with up to 12 access points. No matter whether you need frequency management with automatic channel selection, loadbalancing across several access points, support for virtual LANs, or virtual wireless network administration (multi-SSID) - you have all these advanced features at your fingertips with the WLAN Controller. The software continually monitors the entire wireless network, notifying administrators of any malfunctions or security threats.

The router's integrated HotSpot Gateway together is an ideal complement to the WLAN Controller in combination with a bintec HotSpot license, allowing operators to set up a wireless guest network that requires authentication. This secure separation between the guest network and company network is configured through the WLAN Controller and implemented using virtual wireless networks. An additional highlight is the optional Cobion filter which can be used to prevent children and youth from accessing inappropriate content.

Variants

bintec RS353jw (5510000374)	IP Access Router; Desktop with 19"Rack; incl. ADSL2+ modem (VDSL opt.)(Annex B/J, ALL-IP,Vectoring, ISDN); 11n WLAN; incl. 5 IPSec tunnel (opt.30), certificates, HW encrypt; 4+1 Gigabit Eth. switch; USB Port Typ B; USB port; german and intern. Version

Features

DSL	
VDSL	VDSL2 ITU G.993.2
VDSL Profile	VDSL Profile 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
VDSL	Compatibel to VDSL2 connection of Deutsche Telekom
VDSL Vectoring	Vectoring ready & Vectoring capable
VDSL	Compatible to ADSL/ADSL2/ADSL2+ over ISDN, Annex B
ADSL	ADSL over ISDN (ITU G.992.1 Annex B, ISDN - compatible to U-R2 connection of Deutsche Telekom, G.Lite (ITU G.922.2)
ADSL	Support of Dying Gasp
ATM	Support of layer 1 protocol AAL5, PVCs, RFC 1483
ATM	Support of up to 7 virtual channels (VC)
ATM	Support of OAM F4/F5 line monitoring
ATM	Support of ATM traffic management (COS - CBR, VBR, UBR)

Quality of Service (QoS)	
Layer2/3 tagging	Conversion of 802.1p layer 2 priorisation information to layer 3 diffserv attributes
TCP Download Rate Control	For reservation of bandwidth for VoIP connections
DiffServ	Priority Queuing of packets on the basis of the DiffServ/TOS field
Policy based Traffic Shapping	Dynamic bandwidth management via IP traffic shaping
Bandwidth reservation	Dynamic reservation of bandwidth, allocation of guaranteed and maximum bandwidths
Warranty	2 year manufacturer warranty inclusive advanced replacement
Software Update	Free-of-charge software updates for system software (BOSS) and management software (DIME Manager)

Redundancy / Loadbalancing	
Load Balancing	Static and dynamic load balancing to several WAN connections on IP layer

Redundancy / Loadbalancing

BRRP	Optional: Bintec Router Redundancy Protocol for backup of several passive or active devices with free selectable priority
BoD	Bandwidth on Demand: dynamic bandwidth to suit data traffic load
VPN backup	Simple VPN backup via different media. Additional enables the bintec elmeg interface based VPN concept the application of routing protocols for VPN connections.

Content of Delivery

Power cable	Power Plug 100-240V / 1,5 A
ISDN (BRI/S0) cable	ISDN (BRI/S0) cable, 2m
Safety Instructions	Safety Instructions
WLAN antenna	Two external 3 dBi dipol dualband antennas
VDSL/ADSL cable	VDSL/ADSL cable (RJ45-RJ45), 3m
Installation Poster	Guide for the Installation
19" brackets and screws	Two 19" brackets for the switch panel mounting
Ethernet cable	1 Ethernet cable, 2m

Layer 2 Functionality

VLAN	Support of up to 256 VLAN (Virtual LAN) for segmentation of the network in independent virtual segments (workgroups)
Proxy ARP	Enables the router to answer ARP requests for hosts, which are accessible via the router. That enables the remote clients to use an IP address from the local net.
Bridging	Support of layer 2 bridging with the possibility of separation of network segment via the configuration of bridge groups

Logging / Monitoring / Reporting

Internal system logging	Syslog storage in RAM, display via web-based configuration user interface (http/https), filter for subsystem, level, message
External system logging	Syslog, several syslog server with different syslog level configurable
E-Mail alert	Automatic E-Mail alert by definable events
SNMP traps	SNMP traps (v1, v2, v3) configurable
IPSec monitoring	Display of IPSec tunnel and IPSec statistic; output via web-based configuration user interface (http/https)
Interfaces monitoring	Statistic information of all pysical and logical interfaces (ETH0, ETH1, SSIDx, ...), output via web-based configuration user interface (http/https)
WLAN monitoring	Detailed display for radio, VSS, bridge links, client links (available in later releases)

Logging / Monitoring / Reporting

WLAN Monitoring	Display for each link: MAC address, IP address, TX packets, RX packets, signal strength for all receiver antennas, signal-to-noise ratio, data rate; output via web-based configuration user interface (http/https)
ISDN monitoring	Display of active and past ISDN connections; output via web-based configuration user interface (http/https)
IP accounting	Detailed IP accounting, source, destination, port, interface and packet/bytes counter, transmission also via syslog protocol to syslog server
ISDN accounting	Detailed ongoing recording of ISDN connection parameter like calling number and charging information, transmission also via syslog protocol to syslog server
RADIUS accounting	RADIUS accounting for PPP, PPTP, PPPoE and ISDN dialup connections
Keep Alive Monitoring	Control of hosts/connections via ICMP polling
Tracing	Traces can be stored in PCAP format, so that import to different open source trace tools (e.g. wireshark) is possible.

Administration / Management

RADIUS	Central check of access authorization at one or several RADIUS server, RADIUS (PPP, IPSec inclusive X-Auth and login authentication)
RADIUS dialout	On a RADIUS server configured PPP und IPSec connection can be loaded into the gateway (RADIUS dialout).
TACACS+	Support of TACACS+ server for login authentication and for shell comando authorization
Time synchronization	The device system time can be obtained via ISDN and from a SNTP server (up to 3 time server configurable). The obtained time can also be transmitted per SNTP to SNTP clients.
Automatic Time Settings	Time zone profiles are configurable. That enables an automatic change from summer to winter time.
Supported management systems	DIME Manager, XAdmin
Configurable scheduler	Configuring of time and event controlled tasks, e.g. reboot device, activate/deactivate interface, activate/deactivate WLAN, trigger SW update and configuration backup
Configuration Interface (FCI)	Integrated web server for web-based configuration via HTTP or HTTPS (supporting self created certificates). This user interface is by most of bintec elmeg GmbH products identical.
Software update	Software updates are free of charge; update via local files, HTTP, TFTP or via direct access to the bintec elmeg web server
Remote maintenance	Remote maintenance via telnet, SSL, SSH, HTTP, HTTPS and SNMP (V1,V2,V3)
ISDN remote maintenance	Remote maintenance via ISDN dial-in with checking of the calling number. The ISDN remote maintenance connection between two bintec elmeg devices can be encrypted.
GSM remote maintenance	Remote maintenance via GSM login (external USB UMTS (3G) modem required)
Device discovery function	Device discovery via SNMP multicast.
On The Fly configuration	No reboot after reconfiguration required

Administration / Management

SNMP	SNMP (v1, v2, v3), USM model, VACM views, SNMP traps (v1, v2, v3) configurable, SNMP IP access list configurable
SNMP configuration	Complete management with MIB-II, MIB 802.11, Enterprise MIB
Configuration export and import	Load and save configurations, optional encrypted; optional automatic control via scheduler
SSH login	Supports SSH V1.5 and SSH V2.0 for secure connections of terminal applications
HP OpenView	Integration into Network Node Manager
XAdmin	Support of XAdmin roll out and configuration managemant tool for larger router installations (IP+ISDN+GSM)
Configuration via USB	Configuration interface is available

Interfaces

Ethernet	5 x 10/100/1000 Mbps Ethernet Twisted Pair, autosensing, Auto MDI/MDI-X, up to 4 ports can be switches as additional WAN ports incl. load balancing, all Ethernet ports can be configured as LAN or WAN.
WLAN	IEEE 802.11a/b/g/n; 1 radio module, Mimo 2x2 für 2.4 und 5 GHz band
External WLAN antenna connectors	Three reverse SMA antenna connectors for external WLAN antennas
USB 2.0 host	USB 2.0 full speed host port for connecting LTE(4G) or UMTS(3G) USB sticks (supported sticks: see www.bintec-elmeg.com)
USB-Console	Service-Interface USB 2.0 plug B (driver: see www.bintec-elmeg.com)
VDSL2/ADSL 2+/ADSL	ADSL over ISDN (compatible to U-R2 connection of Deutsche Telekom)
ISDN Basic Rate (BRI)	1 x BRI (TE), 2 B channels

Hardware

Realtime clock	System time persists even at power failure for some hours.
Wall mounting	Integrated in housing
Desktop operation	Possible, rubber pad included the package
Environment	Temperature range: Operational 0°C to 40°C; storage -25°C to 70°C; Max. rel. humidity 10 - 95% (non condensing)
Protection Class	IP20
Power supply	Internal power supply 110-240V 1.5 A, with energy efficient switching controler; complies with EuP directive 2008/28/EC
Power consumption (idling)	Less than 5 Watt
Housing	Metal case, opening for Kensington lock, prepared for wall mounting
Dimension	Ca. 265 mm x 40 mm x 170 mm (W x H x D)
Fan	Fanless design therefor high MTBF

Hardware	
Reset button	Restart or reset to factory state possible
Status LEDs	Power, Status, 10 * Ethernet, VDSL, ISDN, WLAN, USB, LTE
Function Button	Supported from Release 9.1.10
Certification	Wi-Fi Certified according 802.11abgn (Rel.7.9.4)
Standards and certifications	R&TTE directive 1999/5/EG; EN 55022; EN 55024 + EN 55024/A1; EN61000-3-2; EN 61000-3-3; EN 61000-4-4; EN 60950-1; EN 300 328; EN 301 489-17; EN 301 489-1; EN 301 893

Wireless LAN	
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
Bridge-Link	Applicable as Access-Point/Bridge-Link Master or as Bridge-Link Client (available in upcoming release)
Multi SSID	Depending on the complexity of configuration up to 8 service sets per radio module, with virtual access points and own MAC address per SSID.
Number of spatial streams (802.11n)	1 or 2
Transmission rate	Automatic fallback or fixed transmission rate selectable
Bandwidth (802.11n)	20/40 MHz (bundling of two adjoining 20 MHz channels to one 40 MHz channel)
DTIM Period	Adjustable
RTS/CTS	RTS/CTS threshold adjustable
Broadcast SSID	On/off switchable
Advanced 11n performance features	Beamforming, MRC (Maximum Ratio Combining), Block-Acknowledge
WLAN standards	802.11n (Mimo 2x2); 802.11b; 802.11g; 802.11a; 802.11h
Frequency bands 2.4 GHz indoor/outdoor (EU)	2.4 GHz Indoor/Outdoor (2412-2472 MHz) max. 100 mW EiRP. The permitted transmission power may vary in countries outside the EC.
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. 200 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
WLAN operation	WLAN Accesspoint operation
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)	Automatic usage of the optimized data rate
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 LAN

Data rates for 802.11n (2.4 / 5 GHz)	MCS0-15 enables physical rates up to 150 Mbps at 20 MHz channels bandwidth, 2 streams, short guard interval; MCS0-15 enables physical data rates up to 300 Mbps at 40 MHz channels bandwidth, 2 streams, short guard interval

Hardware - modular expansions

IP address ISDN B/D channel license	Free of charge license for IP address transmission in ISDN D or B channel for IPSec connections; registering under www.bintec-elmeg.com required.

WLAN Electric Characteristics

TX power @ 2,4 GHz 802.11n 40 MHz	MCS0/8 19 dBm; MCS1/9 19 dBm; MCS2/10 19 dBm; MCS3/11 19 dBm; MCS4/12 19 dBm; MCS5/13 19 dBm; MCS6/14 19 dBm; MCS7/15 19 dBm
Receiver Sensitivity @ 2.4 GHz 802.11n 40 MHz	MCS0 -92 dBm; MCS1 -91 dBm; MCS2 -89 dBm; MCS3 -86 dBm; MCS4 -82 dBm; MCS5 -79 dBm; MCS6 -77 dBm; MCS7 -75 dBm; MCS8 -91 dBm; MCS9 -91 dBm; MCS10 -89 dBm; MCS11 -85 dBm; MCS12 -82 dBm; MCS13 -78 dBm; MCS14 -77 dBm; MCS15 -74 dBm
Receiver Sensitivity @ 5 GHz 802.11n 40 MHz	MCS0 -91 dBm; MCS1 -89 dBm; MCS2 -87 dBm; MCS3 -84 dBm; MCS4 -81 dBm; MCS5 -78 dBm; MCS6 -76 dBm; MCS7 -74 dBm; MCS8 -90 dBm; MCS9 -89 dBm; MCS10 -87 dBm; MCS11 -83 dBm; MCS12 -80 dBm; MCS13 -77 dBm; MCS14 -75 dBm; MCS15 -73 dBm
Receiver Sensitivity @ 5 GHz 802.11a/h	6 Mbps -95 dBm;9 Mbps -94dBm; 12 Mbps -93 dBm; 18 Mbps -90 dBm; 24 Mbps -88 dBm; 36 Mbps -84 dBm; 48 Mbps -82 dBm; 54 Mbps -81 dBm
TX power @ 2,4 GHz 801.11b/g	1 Mbps 19 dBm; 2 Mbps 19 dBm; 5,5 Mbps 19 dBm; 11 Mbps 19 dBm; 6 Mbps 19 dBm;9 Mbps 19 dBm; 12 Mbps 19 dBm; 18 Mbps 19 dBm; 24 Mbps 19 dBm; 36 Mbps 19 dBm; 48 Mbps 19 dBm; 54 Mbps 19 dBm
TX power @ 2,4 GHz 802.11n 20 MHz	MCS0/8 19 dBm; MCS1/9 19 dBm; MCS2/10 19 dBm; MCS3/11 19 dBm; MCS4/12 19 dBm; MCS5/13 19 dBm; MCS6/14 19 dBm; MCS7/15 19 dBm
Receiver Sensitivity @ 2.4 GHz 802.11b/g	1 Mbps -92 dBm; 2 Mbps -92 dBm; 5,5 Mbps -92 dBm; 11 Mbps -92 dBm; 6 Mbps -95 dBm;9 Mbps -95 dBm; 12 Mbps -94 dBm; 18 Mbps -92 dBm; 24 Mbps -90 dBm; 36 Mbps -85 dBm; 48 Mbps -83 dBm; 54 Mbps -80 dBm
TX power @ 5 GHz 802.11n 40 MHz	MCS0/8 19 dBm; MCS1/9 19 dBm; MCS2/10 19 dBm; MCS3/11 19 dBm; MCS4/12 19 dBm; MCS5/13 18 dBm; MCS6/14 17 dBm; MCS7/15 17 dBm
TX power @ 5 GHz 802.11n 20 MHz	MCS0/8 23 dBm; MCS1/9 23 dBm; MCS2/10 22 dBm; MCS3/11 21 dBm; MCS4/12 20 dBm; MCS5/13 19 dBm; MCS6/14 18 dBm; MCS7/15 18 dBm
TX power @ 5 GHz 801.11a/h	6 Mbps 19 dBm;9 Mbps 19 dBm; 12 Mbps 19 dBm; 18 Mbps 19 dBm; 24 Mbps 19 dBm; 36 Mbps 19 dBm; 48 Mbps 19 dBm; 54 Mbps 19 dBm
Receiver Sensitivity @ 2.4 GHz 802.11n 20 MHz	MCS0 -95 dBm; MCS1 -94 dBm; MCS2 -92 dBm; MCS3 -88 dBm; MCS4 -85 dBm; MCS5 -81 dBm; MCS6 -80 dBm; MCS7 -78dBm; MCS8 -95 dBm; MCS9 -94 dBm; MCS10 -91 dBm; MCS11 -87 dBm; MCS12 -84 dBm; MCS13 -81 dBm; MCS14 -79 dBm; MCS15 -77 dBm
Receiver Sensitivity @ 5 GHz 802.11n 20 MHz	MCS0 -96 dBm; MCS1 -93 dBm; MCS2 -91 dBm; MCS3 -88 dBm; MCS4 -85 dBm; MCS5 -81 dBm; MCS6 -79 dBm; MCS7 -77 dBm; MCS8 -94 dBm; MCS9 -92 dBm; MCS10 -90 dBm; MCS11 -87 dBm; MCS12 -84 dBm; MCS13 -80 dBm; MCS14 -78 dBm; MCS15 -76 dBm

ISDN	
CAPI	CAPI 2.0 with CAPI user concept (password for CAPI use)
ISDN auto-configuration	Automatic recognition and configuration of ISDN protocols
B channel protocols	Excellent interoperability with other manufacturers (Raw HDLC, CISCO HDLC, X.75)
ISDN leased lines	Supported leased lines: D64S, D64S2, TS02, D64S2Y
X.31 over CAPI	Support for various connection paths: X.31/A for ISDN D-channel, X.31/A+B for ISDN B-channel, X.25 within ISDN B-channel (also leased lines)
Bit rate adaption	V.110 (1,200 up to 38,400 bps), V.120 up to 57,600 kbps (HSCSD) for connection to GSM subscribers
ISDN protocols	Euro-ISDN (Point-to-mulitpoint/Point-to-point), 1TR6 and other national ISDN protocols

VPN	
IPSec Algorithms	DES (64 Bit), 3DES (192 Bit), AES (128,192,256 Bit), CAST (128 Bit), Blowfish (128-448 Bit), Twofish (256 Bit); MD-5, SHA-1,SHA-2 (256,384,512), RipeMD160, Tiger192 Hashes
Number of VPN tunnels	Inclusive 5 active VPN tunnels with the protocols IPSec, PPTP, L2TP and GRE v.0 (also in combination possible). Optional router extension up to 30 simultaneous utilisable VPN tunnel via license.
PPTP (PAC/PNS)	Point to Point Tunneling Protocol for establishing fo Virtual Privat Networks, inclusive strong encryption methods with 128 Bit (MPPE) up to 168 Bit (DES/3DES, Blowfish)
GRE v.0	Generic Routing Encapsulation V.0 according RFC 2784 for common encapsulation
L2TP	Layer 2 tunnelling protocol inclusive PPP user authentication
IPSec	Internet Protocol Security establishing of VPN connections
IPSec hardware acceleration	Integrated hardware acceleration for IPSec encryption algorithms DES, 3DES, AES
IPSec IKE	IPSec key exchange via preshared keys or certificates. Support of IKEv1, IKEv2 Initiator Mode, IKEv2 Responder Mode
IPSec IKE Config Mode	IKE Config Mode server enables dynamic assignment of IP addresses from the address pool of the company. IKE Config Mode client enables the router, to get assigned dynamically an IP address.
IPSec IKE XAUTH (Client/Server)	Internet Key Exchange protocol Extended Authenticaion client for login to XAUTH server and XAUTH server for loging of XAUTH clients
IPSec IKE XAUTH (Client/Server)	Inclusive the forwarding to a RADIUS-OTP (One Time Password) server (supported OTP solutions see www.bintec-elmeg.com).
IPSec NAT-T	Support of NAT-Traversal (Nat-T) for the application at VPN lines with NAT
IPSec IPComp	IPSec IPComp data compression for higher data throughput via LZS
IPSec certificates (PKI)	Support of X.509 multi-level certificates compatible to Micrososft and Open SSL CA server; upload of PKCS#7/8/10/12 files via TFTP, HTTP, HTTP, LDAP, file upload and manual via FCI
IPSec SCEP	Certificates management via SCEP (Simple Certificate Enrollment Protocol)
IPSec Certificate Revocation Lists (CRL)	Support of remote CRLs on a server via LDAP or local CRLs
IPSec Dead Peer Detection (DPD)	Continuous control of IPSec connection

VPN	
IPSec dynamic IP via ISDN	Transmission of dynamic IP address in ISDN D or B channel; free-of-charge licence necessary
IPSec dynamic DNS	Enables the registering of dynamic IP addresses by a dynamic DNS provider for establishing a IPSec connection.
IPSec RADIUS	Authentication of IPSec connections at a RADIUS server. Additionally the IPSec peers, which were configured on a RADIUS server, can be loaded into the gateway (RADIUS dialout).
IPSec Multi User	Enables the Dial-in of several IPSec clients via a single IPSec peer configuration entry
IPSec QoS	The possibility to operate Quality of Service (traffic shaping) inside of an IPSec tunnel
IPSec NAT	By activating of NAT on an IPSec connection it is possible, to implement several remote locations with identical local IP addess networks in different IP nets for the VPN connection
Number of IPSec tunnels	Inclusive 5 active IPSec tunnels (expandable to 30 tunnels)

Security	
Encryption WEP/WPA	WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
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.
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
Access Control List (ACL)	MAC address filter for WLAN clients
VLAN	Network segmentation on layer 2 possible, one VLAN ID per SSID. Static VLAN configuration according to IEEE 802.1q; supports up to 256 VLANs.
NAT/PAT	Symmetric Network and Port Address Translation (NAT/PAT) with randomly generated ports inclusive Multi NAT (1:1 translation of whole networks)
Policy based NAT/PAT	Network and Port Address Translation via different criteria like IP protocols, source/destination IP Address, source/destination port
Policy based NAT/PAT	For incoming and outgoing connections and for each interface variable configurable
Content Filtering	Optional ISS/Cobion Content filter (30 day test license inclusive)
Stateful Inspection Firewall	Packet filtering depending on the direction with controling and interpretation of each single connection status
Packet Filter	Filtering of IP packets according to different criteria like IP protocols, source/destination IP address, source/destination port, TOS/DSCP, layer 2 priority for each interface variable configurable

Routing	
Multicast IGMP	Support of Internet Group Management Protocol (IGMP v1, v2, v3) for the simultaneous distribution of IP packets to several stations
Multicast inside IPSec tunnel	Enables the transmission of multicast packets via an IPSec tunnel
Multicast IGMP Proxy	For easy forwarding of multicast packets via dedicated interfaces
RIP	Support of RIPv1 and RIPv2, separated configurable for each interface

Routing

Extended RIP	Triggerd RIP updates according RFC 2091 and 2453, Poisened Rerverse for a better distribution of the routes; furthermore the possibility to define RIP filters for each interface.
Policy based Routing	Extended routing (Policy Based Routing) depending of diffent criteria like IP protocols (Layer4), source/destination IP address, source/destination port, TOS/DSCP, source/destination interface and destination interface status

Protocols / Encapsulations

PPPoE (Server/Client)	Point-to-Point Protocol over Ethernet (Client and Server) for establisching of PPP connections via Ethernet/DSL (RFC 2516)
MLPPPoE (Server/Client)	Multilink extension MLPPPoE for bundeling several PPPoE connections (only if both sides support MLPPPoE)
PPPoA	Point to Point Protocol over ATM for establishing of PPP connections via ATM/DSL
Packet size controling	Adaption of PMTU or automatic packet size controling via fragmentation
DHCP	DHCP Client, Server, Proxy and Relay for siplified TCP/IP configuration
IPoA	Enables the easy routing of IP via ATM
DNS	DNS client, DNS server, DNS relay and DNS proxy
DYN DNS	Enables the registering of dynamic assigned IP addresses at adynamic DNS provider, e.g. for establishing of VPN connections
DNS Forwarding	Enables the forwarding of DNS requests of free configurable domains to assigned DNS server.
PPP/MLPPP	Support of Point to Point Protocol (PPP) for establishing of standard PPP connections, inclusive the Multilink extension MLPPP for the bundeling of several connections

IPv6

IPv4/ IPv6 Dual Stack	Parallel mode IPv4/ IPv6 supported
DHCPv6	DHCP Server and Client
NDP	Neighbor Discovery Protocol: Router Discovery, Prefix Discovery, Parameter Discovery, Address Resolution, Static configuration of neighbors, IPv6 Router AAdvertisment Option for DNS Configuration (trough ND)
ULA	Unique Local IPv6 Unicast Addresses
IPv6 Adressing	IPv6 Stateless address auto-configuration (SLAAC), Manual address configuration, General-prefix support for address configuraion (user and prefix delegation DHCPv6), Duplicate Address Detection
ICMPv6 (router & host)	Destination Unreachable, Packet too big, Time exceeded, Echo Request
Routing Protocols	Static Routes
Multicast	Multicast for IPv6
Firewall	Firewall via IPv6
IPSec	IPSec for IPv6

Accessoires

WLAN Controller	
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

Software Licenses	
RSxx3/Rxx02/RTxx02/RXL-IPSEC25 (5500000781)	Additional 25 IPSec tunnel license for RSxx3, Rxx02, RTxx02 and RXL12xxx series
VDSL License RS353jx (Annex B) (5500001623)	VDSL license for RS353j/jw/j-4G (Annex B, ADSL over ISDN)
BRRP-RS123x/RS35x-Series (5500001630)	Software License for bintec Router Redundancy Protocol (BRRP) for RS123x and RS35x-series
Cobion Content Filter Small (80551)	Cobion content filter for RSxxx, Rxx02, RTxx02 series; R230a(w), R232b(w), TR200, R1200(w/wu), R3000(w), R3400, R3800, R232aw, RV-Series; list price for one year

Pick-up Service / Warranty Extension	
Service Package 'small' (5500000810)	Warranty extension of 3 years to a total of 5 years, including advanced replacement for bintec elmeg products of the category 'small'. Please find a detailed description as well as an overview of the categories on www.bintec-elmeg.com/servicepackages.

Product Services	
HotSpotHosting 2yr 1 location (5500000861)	HotSpot solution hosting fee for 2 year and 1 location
HotSpotHosting 1yr 1 location (5510000198)	HotSpot solution hosting fee for 1 year and 1 location
Additional HotSpot location (5510000199)	Additional location for the HotSpot solution (551000198, 5500000861) valid for one year

Add-ons	
bintec 4GE-LE (5530000119)	LTE (4G)/UMTS (3G) extension device for router; 1x Gbit Eth; Simcard slot; Wallmounting; PoE Injector inclusive