MOBILE CONNECTIVITY

Rugged LTE router for broadband applications in vehicles

bintec RV120-4G

- 4G/3G module for Internet connecticity
- GPS for location analysis and for action triggering
- Up to 30 simultaneous VPN tunnels
- Extended temperature range for the operation in vehicles
- E1 automotive approval

bintec RV Series

bintec RV

bintec RV120-4G

Rugged LTE router for broadband applications in vehicles

Rugged, vehicle certified 4G router.

Rugged

bintec RV series automotive routers are robust devices designed for unattended use in vehicles such as buses, emergency medical vehicles, police cars, and trucks. They provide the internet connectivity required for IP-based video surveillance systems, telemetry applications, vehicle tracking, wireless LAN connections that provide internet access to passengers, and advertisements displayed on digital signage.

Flexible

The **bintec RV series** combines flexible connectivity options (LTE, UMTS, wireless LAN, and more) with a broad range of software features such as the integrated IPSec functionality and the web-based graphical configuration interface and its wizards. The integrated 4G modem supports both LTE with 100 Mbps downloads and up to 50 Mbps uploads as well as UMTS (3G+) and HSPA+ for download speeds of up to 42.2 Mbps and 5.76 Mbps for uploads. Operators can connect IP-based surveillance cameras and onboard computers to the device via the integrated four port Ethernet switch.

Secure

bintec RV series routers provide an unparalleled range of IPSec features. All bintec RV series routers ship with 5 hardware-accelerated IPSec tunnels that can be upgraded to as many as 30 if required. Thanks to the comprehensive multicast implementation, bintec RV routers are ideal for multimedia and streaming applications such as video surveillance.

Variants

RV120-4G (5510000335)	Rugged 4G router for vehicles. 4G/3G module, GPS, 4-port 10/100Mbit/s switch, incl. 5 VPN tunnel (up to 30 VPN tunnel opt.), E1 approval, Power supplier from the vehicle battery.

Features

LTE(4G) / UMTS(3G)	
Supported standards	LTE - 4G (Download up tp 100 Mbit/s and Upload up to 50 Mbit/s), UMTS - 3.5G (HSPA+), GPRS-, Edge- and GSM support
LTE (4G) frequencies	800/900/1800/2100/2600 MHz

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LTE(4G) / UMTS(3G)

UMTS - HSPA (3.5G) / EDGE - GPRS (2G) frequencies	850/900/1800/1900/2100 MHz

VPN

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
Number of VPN tunnels	Inclusive 5 active VPN tunnels with the protocols IPSec, PPTP, L2TP and GRE v.0 . Up to 30 simultanoues, active VPN tunnel possible with a additional license. Up 100 profiles of VPN tunnels are definable.
IPSec	Internet Protocol Security establishing of VPN connections
Number of IPSec tunnels	Inclusive 5 active IPSec tunnels. Up to 30 simultanoues, active tunnel possible with a additional license. Up 100 profiles of tunnels are definable.
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, RipeMD160, Tiger192 Hashes
IPSec hardware acceleration	Integrated hardware acceleration for IPSec encryption algorithms DES, 3DES, AES
IPSec IKE	IPSec key exchange via preshared keys or certificates
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
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

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VPN

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

Security

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

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

Protocols / Encapsulations

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
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)
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.

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Protocols / Encapsulations

DHCP	DHCP Client, Server, Proxy and Relay for siplified TCP/IP configuration
Packet size controling	Adaption of PMTU or automatic packet size controling via fragmentation
HotSpot/Captive Portal	Support of guest networks. Supports the bintec HotSpot solution.

Quality of Service (QoS)

Policy based Traffic Shapping	Dynamic bandwidth management via IP traffic shaping
Bandwidth reservation	Dynamic reservation of bandwidth, allocation of guaranteed and maximum bandwidths
DiffServ	Priority Queuing of packets on the basis of the DiffServ/TOS field
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

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
Load Balancing	Static and dynamic load balancing to several WAN connections on IP layer
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.

Layer 2 Functionality

Bridging	Support of layer 2 bridging with the possibility of separation of network segment via the configuration of bridge groups
VLAN	Support of up to 32 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.

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

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Logging / Monitoring / Reporting

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)
IP accounting	Detailed IP accounting, source, destination, port, interface and packet/bytes counter, 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	Detailed traces can be done for different protocols e.g. PPPoE, ... generation local on the device and remote via DIME Manager
Tracing	Traces can be stored in PCAP format, so that import to different open source trace tools (e.g. wireshark) is possible.

Administration / Management

Ignition control	By switching the control input "ACC" the devices is switching off automatically after a defined time period to avoid discharging of the vehicle battery. The time period is definable.
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 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, WLAN Controller
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)
Serial interface	For configuration and debugging
	Possible
Device discovery function	Device discovery via SNMP multicast.
On The Fly configuration	No reboot after reconfiguration required
SNMP	SNMP (v1, v2, v3), USM model, VACM views, SNMP traps (v1, v2, v3) configurable, SNMP IP access list configurable

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Administration / Management

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
XAdmin	Support of XAdmin roll out and configuration managemant tool for larger router installations (IP, GSM)

Interfaces

Ethernet	4 x 10/100 Mbps Ethernet Twisted Pair, autosensing, Auto MDI/MDI-X, up to 3 ports can be switches as additional WAN ports incl. load balancing, all Ethernet ports can be configured as LAN or WAN.
Serial console	Serial console interface / COM-port 9-pin D-Sub socket
WWAN Modul 1	LTE, UMTS, HSPA+, GPRS, Edge or GSM with integrated LTE Modem with SMA Antennenschlüssen for external LTE/UMTS antennas
GPS Modul	FME-Male antenna socket
WLAN Modul	High performance 802.11abgn (2,4/5GHz) Mimo 2x2 industrial grade radio modul with two RSMA antenna sockets for external WLAN antennas

Hardware

Housing	Rugged aluminium housing optimized for vehicle mounting. Anti-shock and Anti-vibration protection
Mounting	Include wall and ceiling mounting unit
Environment	High temperature range: Operational -30°C to +70°C
Power supply	Optimized for the operation from a 12 Volt or 24 Volt vehicle battery. Automatic time delayed switch off via ignition control input possible.
Dimension	Ca. 200 mm x 62 mm x 165 mm (W x H x D)
Weight	1,5 kg
Fan	Fanless design therefore high MTBF
Reset button	Restart or reset to factory state possible
Status LEDs	Power/Status, 8 * Ethernet

Scope of supply

	Power supply connector (M12), Ethernet cable, Consolport-cable D-Submin 9-pin, wall mounting, Docu-CD, Installation flyer d/en

Accessories

RV Starterkit (5520000132)	2x WLAN antenna, 2x 4G/3G antenna, GPS antenna, Power supply 100-240V

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GPS Functionality

Display of the position	Display of the current location as coordinates and as Google Map
Event Manager	Definition of one or multiple geographical aeras for triggering an event. This function allow a re-configuration of the unit from the WLAN AP mode to the WLAN client mode in the case that the vehicle is reaching the bus depot.

Accessoires

Products

RV120-4G (5510000335)	Rugged 4G router for vehicles. 4G/3G module, GPS, 4-port 10/100Mbit/s switch, incl. 5 VPN tunnel (up to 30 VPN tunnel opt.), E1 approval, Power supplier from the vehicle battery.

Software Licenses

Rxx02/RTxx02/RXL12xxx-IPSEC25 (5500000781)	Additional 25 IPSec tunnel license for Rxx02, RTxx02 and RXL12xxx 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 '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.

Product Services

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

Add-ons

ANT-Vehicle-4G-GPS-WIFI (5500001719)	Multifunctional roof antenna for LTE/(3G) (MIMO), GPS and WIFI (MIMO) for the bintec RV-Series. Cables 3m; Plugs: LTE - SMA male (2x); WIFI - RP SMA male (2x); GPS - FME Female
RV-Starterkit (5520000132)	Starter kit for RV-Serie contains 2x WLAN antennas, 2x 4G/3G antennas, GPS antenna, Power supply 100-240V

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