LANCOM IAP-4G+

The LTE/4G router for harsh environments

This router is the ideal solution for reliable Internet in tough environments such as in warehousing and logistics, or for covered outdoor areas without a wired Internet connection. The extremely robust housing is highly dust proof and is suitable for temperatures from -20 to 50°C. With integrated IPSec VPN functionality and an integrated LTE-Advanced modem for up to 300 Mbps, this device provides professional site connectivity via cellular networking and fast data transfer—ideal for connecting automated systems, machines, and surveillance equipment.

- Cellular router with integrated advanced 4G LTE modem for data rates of up to 300 Mbps
- Robust IP50 all-metal housing for maximum reliability in harsh environments
- Reliable even at demanding temperatures (-20°C to +50°C)
- Secure site connectivity with 5 simultaneous IPSec VPN connections (25 channels optional)
- Integrated stateful-inspection firewall with intrusion detection and Denial-of-Service protection
- Network virtualization with up to 16 networks on one device (ARF)
- Security Made in Germany

LANCOM IAP-4G+

Integrated multiband LTE-Advanced modem for data rates up to 300 Mbps

With its integrated LTE/4G cellular modem, the LANCOM IAP-4G+ supports wireless broadband connectivity with speeds up to 300 Mbps. This makes it ideal for professional and secure high-speed Internet connectivity at locations without DSL. Another advantage: The device is backwards compatible and also supports the cellular standard 3G.

Robust all-metal housing

The durable metal housing allows this cellular router to guarantee excellent Internet connections even in tough and dusty environments. It protects the LANCOM IAP-4G+ from external influences and is ideal for use in warehouses or indoor event venues. Thanks to an extended temperature range from -20°C to +50°C, the device provides reliable wireless connections under the most demanding conditions.

Secure site connectivity via VPN

The LANCOM IAP-4G+ offers a high level of security. The standard equipment of 5 IPSec VPN channels guarantees strong encryption, secure connections for mobile employees, and protection of corporate data. The LANCOM VPN option upgrades the router to support 25 VPN channels. This ensures that your network is perfectly scalable and can grow on demand—without additional hardware components.

Maximum data security from its integrated firewall

Equipped with a stateful inspection firewall, the LANCOM IAP-4G+ protects the entire network. With features such as intrusion prevention and Denial-of-Service protection, this business VPN router provides optimal protection and secures all of the data on the network.

Net virtualisation with Advanced Routing & Forwarding

The LANCOM IAP-4G+ provides up to 16 securely isolated IP contexts, each of which has its own separate routing. This is an elegant way of operating IP applications on different networks while, at the same time, managing them on one central router and keeping the different communication channels securely separate from one another.

Maximum future-proofing

LANCOM products are based on professional expertise, years of experience in IT, and high-quality materials. All of our devices are equipped with hardware that is dimensioned for the future and, even reaching back to older product generations, updates to the LANCOM Operating System—LCOS—are available several times a year, free of charge. This guarantees a long service life while staying technically up to date, which represents a true protection of your investment.

Systematic networking solutions

LANCOM VPN routers are the basis for secure encrypted site connectivity and high-speed Internet access. As professional system components, they are fully compatible to all LANCOM network components and enable flexible scaling and expansion when using further LANCOM components. The result is a secure and flexible all-round solution that you can rely on. The overall network down to each individual device can be managed and monitored from a central instance—for a solution that is systematic.

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LTE modem	
Supported standards	LTE, UMTS and HSPA support (mode of transmission automatically or manually adjustable), 2G/GSM is not supported
Supported mobile bands (3G/4G)	Band 1 (2100 MHz), Band 2 (1900 MHz), Band 3 (1800 MHz), Band 4 (2100 MHz), Band 5 (800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 12 (700 MHz), Band 13 (700 MHz), Band 20 (800 MHz), Band 25 (1900 MHz), Band 26 (800 Mhz), Band 29 (700 MHz), Band 30 (2300 MHz), Band 41 (2500 MHz)
Maximum transmission power	+23 dBm
Diversity support	Receive diversity on the aux antenna (3G); MIMO (2x2) for LTE (4G)
Supported SIM card formats*	Mini-SIM (2FF), Micro-SIM (3FF) via adaptor, Nano-SIM (4FF) via adaptor
Multi-SIM support	Supported
SIM pin	Changing of SIM pin via LANconfig or CLI (command line interface)
*) Note	LANCOM Systems recommends the use of a standard SIM (2FF / Mini-SIM)
Layer 2 features	
VLAN	4.096 IDs based on IEEE 802.1q, dynamic assignment, Q-in-Q tagging
Multicast	IGMP-Snooping
Protocols	ARP-Lookup, LLDP, ARP, Proxy ARP, BOOTP, DHCP
Layer 3 features	
Firewall	Stateful inspection firewall including paket filtering, extended port forwarding, N:N IP address mapping, paket tagging, support for DNS targets, user-defined rules and notifications
Quality of Service	Traffic shaping, bandwidth reservation, DiffServ/TOS, packetsize control, layer-2-in-layer-3 tagging
Security	Intrusion Prevention, IP spoofing, access control lists, Denial of Service protection, detailed settings for handling reassembly, session-recovery, PING, stealth mode and AUTH port, URL blocker, password protection, programmable reset button
PPP authentication mechanisms	PAP, CHAP, MS-CHAP, and MS-CHAPv2
High availability / redundancy	VRRP (Virtual Router Redundancy Protocol), analog/GSM modem backup
Router	IPv4-, IPv6-, NetBIOS/IP multiprotokoll router, IPv4/IPv6 dual stack
SD-WAN Application Routing	SD-WAN Application Routing in connection with the LANCOM Management Cloud
Router virtualization	ARF (Advanced Routing and Forwarding) up to separate processing of 16 contexts
IPv4 services	HTTP and HTTPS server for configuration by web interface, DNS client, DNS server, DNS relay, DNS proxy, dynamic DNS client, DHCP client, DHCP relay and DHCP server including autodetection, NetBIOS/IP proxy, NTP client, SNTP server, policy-based routing, Bonjour-Proxy, RADIUS
IPv6 services	HTTP and HTTPS server for configuration by web interface, DHCPv6 client, DHCPv6 server, DHCPv6 relay, DNS client, DNS server, dynamic DNS client, NTP client, SNTP server, Bonjour-Proxy, RADIUS
Dynamic routing protocols	RIPv2, BGPv4, OSPFv2, LISP (Locator/ID Separation Protocol)
IPv4 protocols	DNS, HTTP, HTTPS, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RADSEC (secure RADIUS), RTP, SNMPv1,v2c,v3, TFTP, TACACS+
IPv6 protocols	NDP, stateless address autoconfiguration (SLAAC), stateful address autoconfiguration (DHCPv6), router advertisements, ICMPv6, DHCPv6, DNS, HTTP, HTTPS, PPPoE, RADIUS, SMTP, NTP, Syslog, SNMPv1,v2c,v3
WAN operating mode	VDSL, ADSL1, ADSL2 or ADSL2+ additional with external DSL modem at an ETH port
WAN protocols	PPPoE, Multi-PPPoE, ML-PPP, GRE, EoGRE, PPTP (PAC or PNS), L2TPv2 (LAC or LNS), L2TPv3 with Ethernet-Pseudowire and IPoE (using DHCP or no DHCP), RIP-1, RIP-2, VLAN, IPv6 over PPP (IPv6 and IPv4/IPv6 dual stack session), IP(v6)oE (autokonfiguration, DHCPv6 or static)
Tunneling protocols (IPv4/IPv6)	6to4, 6in4, 6rd (static and over DHCP), Dual Stack Lite (IPv4-in-IPv6-Tunnel)
Security	
Intrusion Prevention	Monitoring and blocking of login attempts and port scans
IP spoofing	Source IP address check on all interfaces: only IP addresses belonging to the defined IP networks are allowed
Access control lists	Filtering of IP or MAC addresses and preset protocols for configuration access
Denial of Service protection	Protection from fragmentation errors and SYN flooding

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Security	
General	Detailed settings for handling reassembly, PING, stealth mode and AUTH port
Password protection	Password-protected configuration access can be set for each interface
Alerts	Alerts via e-mail, SNMP traps and SYSLOG
Authentication mechanisms	EAP-TLS, EAP-TTLS, PEAP, MS-CHAP, MS-CHAPv2 as EAP authentication mechanisms, PAP, CHAP, MS-CHAP and MS-CHAPv2 as PPP authentication mechanisms
Adjustable reset button	Adjustable reset button for 'ignore', 'boot-only' and 'reset-or-boot'
IP redirect	Fixed redirection of any packet received over the WLAN interface to a dedicated target address
High availability / redundancy	
VRRP	VRRP (Virtual Router Redundancy Protocol) for backup in case of failure of a device or remote station.
FirmSafe	For completely safe software upgrades thanks to two stored firmware versions, incl. test mode for firmware updates
LTE-Backup	In case of failure of the main connection, a backup connection is established over the internal LTE modem; automatic return to the main connection
Analog/GSM modem backup	Optional operation of an analog or GSM modem at the serial interface
Load balancing	Static and dynamic load balancing over up to 2 WAN connections. Channel bundling with Multilink PPP (if supported by network operator)
VPN redundancy	Backup of VPN connections across different hierarchy levels, e.g. in case of failure of a central VPN concentrator and re-routing to multiple distributed remote sites. Any number of VPN remote sites can be defined (the tunnel limit applies only to active connections). Up to 32 alternative remote stations, each with its own routing tag, can be defined per VPN connection. Automatic selection may be sequential, or dependant on the last connection, or random (VPN load balancing)
Line monitoring	Line monitoring with LCP echo monitoring, dead-peer detection and up to 4 addresses for end-to-end monitoring with ICMP polling
VPN	
IPSec over HTTPS	Enables IPsec VPN based on TCP (at port 443 like HTTPS) which can go through firewalls in networks where e. g. port 500 for IKE is blocked. Suitable for client-to-site connections and site-to-site connections. IPSec over HTTPS is based on the NCP VPN Path Finder technology
Number of VPN tunnels	Max. number of concurrent active IPSec, PPTP (MPPE) and L2TPv2 tunnels: 5 (25 with VPN 25 Option). Unlimited configurable connections. Configuration of all remote sites via one configuration entry when using the RAS user template or Proadaptive VPN.
Hardware accelerator	Integrated hardware accelerator for 3DES/AES encryption and decryption
Realtime clock	Integrated, buffered realtime clock to save the date and time during power failure. Assures timely validation of certificates in any case
Random number generator	Generates real random numbers in hardware, e. g. for improved key generation for certificates immediately after switching-on
1-Click-VPN Client assistant	One click function in LANconfig to create VPN client connections, incl. automatic profile creation for the LANCOM Advanced VPN Client
1-Click-VPN Site-to-Site	Creation of VPN connections between LANCOM routers via drag and drop in LANconfig
IKE, IKEv2	IPSec key exchange with Preshared Key or certificate (RSA signature, digital signature)
Smart Certificate*	Convenient generation of digital X.509 certificates via an own certifaction authority (SCEP-CA) on the webpage or via SCEP.
Certificates	X.509 digital multi-level certificate support, compatible with Microsoft Server / Enterprise Server and OpenSSL. Secure Key Storage protects a private key (PKCS#12) from theft.
Certificate rollout	Automatic creation, rollout and renewal of certificates via SCEP (Simple Certificate Enrollment Protocol) per certificate hierarchy
Certificate revocation lists (CRL)	CRL retrieval via HTTP per certificate hierarchy
OCSP Client	Check X.509 certifications by using OCSP (Online Certificate Status Protocol) in real time as an alternative to CRLs
OCSP Server/Responder*	Offers validity information for certificates created with Smart Certificate via OCSP
XAUTH	XAUTH client for registering LANCOM routers and access points at XAUTH servers incl. IKE-config mode. XAUTH server enables clients to register via XAUTH at LANCOM routers. Connection of the XAUTH server to RADIUS servers provides the central authentication of VPN-access with user name and password. Authentication of VPN-client access via XAUTH and RADIUS connection additionally by OTP token
RAS user template	Configuration of all VPN client connections in IKE ConfigMode via a single configuration entry

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VPN	
Proadaptive VPN	Automated configuration and dynamic creation of all necessary VPN and routing entries based on a default entry for site-to-site connections. Propagation of dynamically learned routes via RIPv2 if required
Algorithms	3DES (168 bit), AES-CBC and -GCM (128, 192 or 256 bit), Blowfish (128 bit), RSA (1024-4096 bit), ECDSA (P-256-, P-384-, P-521-curves) and CAST (128 bit). OpenSSL implementation with FIPS-140 certified algorithms. MD-5, SHA-1, SHA-256, SHA-384 or SHA-512 hashes
NAT-Traversal	NAT-Traversal (NAT-T) support for VPN over routes without VPN passthrough
LANCOM Dynamic VPN	Enables VPN connections from or to dynamic IP addresses. The IP address is communicated via the ICMP or UDP protocol in encrypted form. Dynamic dial-in for remote sites via connection template
Dynamic DNS	Enables the registration of IP addresses with a Dynamic DNS provider in the case that fixed IP addresses are not used for the VPN connection
Specific DNS forwarding	DNS forwarding according to DNS domain, e.g. internal names are translated by proprietary DNS servers in the VPN. External names are translated by Internet DNS servers
Split DNS	Allows the selective forwarding of traffic for IKEv2 depending on the addressed DNS domain.
IPv4 VPN	Connecting private IPv4 networks
IPv4 VPN over IPv6 WAN	Use of IPv4 VPN over IPv6 WAN connections
IPv6 VPN	Connecting private IPv6 networks
IPv6 VPN over IPv4 WAN	Use of IPv6 VPN over IPv4 WAN connections
Radius	RADIUS authorization and accounting, outsourcing of VPN configurations in external RADIUS server in IKEv2, RADIUS CoA (Change of Authorization)
*)	Only with VPN 25 option
Performance	
Routing-Performance	Data regarding the overall routing performance can be found inside the LANCOM tech paper "Routing-Performance" on www.lancom-systems.com
VoIP	
SIP ALG	The SIP ALG (Application Layer Gateway) acts as a proxy for SIP communication. For SIP calls the ALG opens the necessary ports for the corresponding media packets. Automatic address translation (STUN is no longer needed).
Interfaces	
WAN: LTE/UMTS	LTE advanced, LTE, UMTS or HSxPA with integrated LTE advanced modem
Ethernet ports	2 x 10/100/1000BASE-T autosensing (RJ-45), IEEE 802.3az, PoE (Power over Ethernet) at ETH1
Serial interface	Serial configuration interface / COM port (8 pin Mini-DIN): 9,600 - 115,000 baud, suitable for optional connection of analog/GPRS modems. Supports internal COM port server and allows for transparent asynchronous transmission of serial data via TCP
External antenna connectors	Two SMA antenna connectors for external LTE antennas (Ant 1, Ant 2)
Hardware	
Power supply	12 V DC, external power adapter (230 V) with bayonet cap.
Power supply	Via Power over Ethernet, compliant with IEEE 802.3af*/at
Environment	Temperature range -20° to +50 °C; humidity up to 95%; non-condensing
Power consumption (max)	Approx. 12 W via 12 V / 2 A power adapter (value refers to the total power consumption of access point and power adapter), Approx. 12 W via PoE (value solely refers to the power consumption of the access point)
Housing	Robust metal housing, IP 50 protection class, for wall, mast and top-hat rail mounting, 210 x 152 x 33 mm (length x width x depth)
*) Note	It is recommended to use a PoE adapter or switch with IEEE 802.3at support. Using PoE with IEEE 802.3af the LTE module ist not available.
Management and monitoring	
Management	LANCOM Management Cloud, LANconfig, WEBconfig, WLAN controller, LANCOM Layer 2 management (emergency management)

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Management and monitoring	
Management functions	Alternative boot configuration, voluntary automatic updates for LCMS and LCOS, individual access and function rights up to 16 administrators, RADIUS and RADSEC user management, remote access (WAN or (W)LAN, access rights (read/write) adjustable seperately), SSL, SSH, HTTPS, Telnet, TFTP, SNMP, HTTP, access rights via TACACS+, scripting, timed control of all parameters and actions through cron job
FirmSafe	Two stored firmware versions, incl. test mode for firmware updates
automatic firmware update	configurable automatic checking and installation of firmware updates
Monitoring	LANCOM Management Cloud, LANmonitor, WLANmonitor
Monitoring functions	Device SYSLOG, SNMPv1,v2c,v3 incl. SNMP-TRAPS, extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, internal logging buffer for firewall events
Monitoring statistics	Extensive Ethernet, IP and DNS statistics; SYSLOG error counter, accounting information exportable via LANmonitor and SYSLOG
IPerf	IPerf is a tool for measurements of the bandwidth on IP networks (integrated client and server)
SLA-Monitor (ICMP)	Performance monitoring of connections
SD-LAN	SD-LAN – automatic LAN configuration via the LANCOM Management Cloud
SD-WAN	SD-WAN – automatic WAN configuration via the LANCOM Management Cloud
Declarations of conformity*	
CE	EN 60950-1, EN 55022, EN 55024
IPv6	IPv6 Ready Gold
Country of Origin	Made in Germany
*) Note	You will find all declarations of conformity in the products section of our website at www.lancom-systems.com
Scope of delivery	
Manual	Hardware Quick Reference (DE/EN), Installation Guide (DE/EN)
Cable	1 Ethernet cable, 3 m
Mounting Kit	Mounting kit for wall mounting
Antennas	Two 2 dBi LTE/UMTS-antennas
Power supply unit	External power adapter (230 V), NEST 12 V/2.0 A DC/S, coaxial power connector 2.1/5.5 mm bayonet, temperature range from -5 to +45° C, LANCOM item no. 111303 (EU)/LANCOM item no 110829 (UK)
Support	
Warranty	3 years support
Software updates	Regular free updates (LCOS operating system and LANtools) via Internet
Options	
VPN	LANCOM VPN-25 Option (25 channels), item no. 60083
LANCOM Content Filter	LANCOM Content Filter +10 user (additive up to 100), 1 year subscription, item no. 61590
LANCOM Content Filter	LANCOM Content Filter +25 user (additive up to 100), 1 year subscription, item no. 61591
LANCOM Content Filter	LANCOM Content Filter +100 user (additive up to 100), 1 year subscription, item no. 61592
LANCOM Content Filter	LANCOM Content Filter +10 user (additive up to 100), 3 year subscription, item no. 61593
LANCOM Content Filter	LANCOM Content Filter +25 user (additive up to 100), 3 year subscription, item no. 61594
LANCOM Content Filter	LANCOM Content Filter +100 user (additive up to 100), 3 year subscription, item no. 61595
LANCOM Warranty Basic Option M	Option to extend the manufacturer´s warranty from 3 to 5 years, item no. 10711
LANCOM Warranty Advanced Option M	Option to extend the manufacturer´s warranty from 3 to 5 years and replacement of a defective device, item no. 10716
LANCOM Public Spot	Hotspot option for LANCOM products, versatile access (via voucher, e-mail, SMS), including a comfortable setup wizard, secure separation of guest access and internal network, item no. 60642

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LANCOM Management Cloud	
LANCOM LMC-B-1Y LMC License	LANCOM LMC-B-1Y License (1 Year), enables the management of one category B device for one year via the LANCOM Management Cloud, item no. 50103
LANCOM LMC-B-3Y LMC License	LANCOM LMC-B-3Y License (3 Years), enables the management of one category B device for three years via the LANCOM Management Cloud, item no. 50104
LANCOM LMC-B-5Y LMC License	LANCOM LMC-B-5Y License (5 Years), enables the management of one category B device for five years via the LANCOM Management Cloud, item no. 50105
Accessories	
External antenna	AirLancer Extender O-360-4G omnidirectional GSM/GPRS/EDGE/UMTS/HSPA+/LTE outdoor antenna, item no. 61227
External antenna	AirLancer Extender I-360-4G, +2.5 dBi 4G/3G/2G antenna, 698-960 and 1710-2700 MHz, omnidirectional MIMO indoor antenna, item no. 60918
Surge arrestor (LAN cable)	AirLancer Extender SN-LAN surge arrestor (LAN cable), item no. 61261
LANCOM IAP Mount	LANCOM IAP Mount for cap rail and pole mounting, item no. 61647
LANCOM Serial Adapter Kit	For the connection of V.24 modems with AT command set and serial interface for the connection to the LANCOM COM interface, incl. serial cable and connection plug, item no. 61500
VPN Client Software	LANCOM Advanced VPN Client for Windows 7, Windows 8, Windows 8.1, Windows 10, single license, item no. 61600
VPN Client Software	LANCOM Advanced VPN Client for Windows 7, Windows 8, Windows 8.1, Windows 10, 10 licenses, item no. 61601
VPN Client Software	LANCOM Advanced VPN Client for Windows 7, Windows 8, Windows 8.1, Windows 10, 25 licenses, item no. 61602
VPN Client Software	LANCOM Advanced VPN Client for Mac OS X (10.5 Intel only, 10.6 or higher), single license, item no. 61606
VPN Client Software	LANCOM Advanced VPN Client for Mac OS X (10.5 Intel only, 10.6 or higher), 10 licenses, item no. 61607
Item number(s)	
LANCOM IAP-4G+ (EU)	61715 (EU)
LANCOM IAP-4G+ (WW)	61716 (WW)