

LANCOM 1790-4G+

Versatile VPN connectivity via LTE-Advanced or external modems



This router offers you secure VPN functionality with maximum freedom of choice regarding the Internet lines available at the site: Thus, you realize reliable Internet access with additional LTE backup via the connection of any external modems. If, for example, you do not have a wired Internet connection on site, the router offers professional primary access via the LTE-Advanced cellular standard with up to 300 Mbps thanks to 4G.

- Business VPN router with LTE/4G cellular networking for up to 300 Mbps (Cat. 7)
- Gigabit Ethernet interface for connection to external DSL or cable modems
- SD-WAN – automatic VPN and VLAN configuration via the LANCOM Management Cloud
- 5 simultaneous IPSec VPN connections (25 channels optional)
- Network virtualization with up to 16 networks on one device (ARF)
- USB 2.0 port for the integration of modern IoT radio systems
- Security Made in Germany
- Maximum future compatibility, reliability, and security

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Maximum availability

Ideal for business critical applications: The additional LTE-Advanced Modem (Cat. 7) for high-speed cellular networking with up to 300 Mbps downstream is ideal for intelligent backup scenarios or as an alternative to wired Internet connections. With an upstream rate of up to 150 Mbps, the module offers high speed data transfer within the company network or to external cloud services.

Connects external modems

The LANCOM 1790-4G+ connects to an external modem via the Gigabit Ethernet interface, which makes you completely independent of the on-site Internet connection type.

Secure site connectivity via VPN

The LANCOM 1790-4G+ offers high levels 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 needing additional hardware.

Radically simplified configuration with SD-WAN

In combination with the LANCOM Management Cloud, the LANCOM 1790-4G+ paves the way to automated management. The software-defined WAN (SD-WAN) enables the automatic setup of secure VPN connections between sites, including network virtualization across the wide-area network: A few mouse clicks is all it takes to enable the VPN function and select the required VLANs for each site. The laborious configuration of individual tunnel endpoints is no longer required at all.

Stateful inspection firewall

Equipped with a stateful inspection firewall, the LANCOM 1790-4G+ 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.

Advanced Routing & Forwarding

The LANCOM 1790-4G+ 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 with one central router and keeping the different communication channels securely separated from one another.

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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 3 (1800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 20 (800 MHz), Band 28 (700 MHz), Band 32 (1500 MHz), Band 38 (2600 MHz), Band 40 (2300 MHz), Band 41 (2500 MHz), Band 42 (2500 MHz), Band 43 (3600 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
*) 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
Multicast	IGMP-Snooping, MLD-Snooping
Protocols	Ethernet over GRE-Tunnel (EoGRE), L2TPv3, ARP-Lookup, LLDP, DHCP option 82, IPv6-Router-Advertisement-Snooping, DHCPv6-Snooping, LDRA (Lightweight DHCPv6 Relay Agent), Spanning Tree, Rapid Spanning Tree, ARP, Proxy ARP, BOOTP, DHCP, LACP

Layer 3 features

Firewall	Stateful inspection firewall including packet filtering, extended port forwarding, N:N IP address mapping, packet tagging, support for DNS targets, user-defined rules and notifications
Quality of Service	Traffic shaping, bandwidth reservation, DiffServ/TOS, packet size 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
SD-WAN dynamic path selection	SD-WAN dynamic path selection 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

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Layer 3 features

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+, IGMPv3
IPv6 protocols	NDP, stateless address autoconfiguration (SLAAC), stateful address autoconfiguration (DHCPv6), router advertisements, ICMPv6, DHCPv6, DNS, HTTP, HTTPS, PPPoE, RADIUS, SMTP, NTP, BGP, LISP, Syslog, SNMPv1,v2c,v3, MLDv2, PIM, NPTv6 (NAT66)
Multicast Routing	PIM (Protocol Independent Multicast), IGMP proxy, MLD proxy
WAN operating mode	VDSL, ADSL1, ADSL2 or ADSL2+ additional with external DSL modem at an ETH port, UMTS/LTE
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), 464XLAT

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
General	Detailed settings for handling reassembly, PING, stealth mode and AUTH port
URL blocker	Filtering of unwanted URLs based on DNS hitlists and wildcard filters. Extended functionality with Content Filter Option
Password protection	Password-protected configuration access can be set for each interface
Alerts	Alerts via e-mail, SNMP traps and SYSLOG
Authentication mechanisms	PAP, CHAP, MS-CHAP and MS-CHAPv2 as PPP authentication mechanism
Adjustable reset button	Adjustable reset button for 'ignore', 'boot-only' and 'reset-or-boot'

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

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High availability / redundancy

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 3 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, ECDSA-Signature, digital signature)
Smart Certificate*	Convenient generation of digital X.509 certificates via an own certification 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

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VPN

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
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), Chacha20-Poly 1305 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)
High Scalability VPN (HSVPN)	Transmission of multiple, securely separated networks within a VPN tunnel
IKEv2-EAP*	VPN clients can be authenticated with IKEv2-EAP against a central database like Microsoft Windows Server or RADIUS Server
*)	Only with VPN 25 option

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Performance

Routing-Performance	Data regarding the overall routing performance can be found inside the LANCOM tech paper "Routing-Performance" on www.lancom-systems.com
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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).
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Interfaces

WAN: Ethernet	10/100/1000 Mbps Gigabit Ethernet
WAN: LTE/UMTS	LTE advanced, LTE, UMTS or HSxPA with integrated LTE advanced modem
Ethernet ports	3 individual 10/100/1000 Mbps Ethernet ports; up to 3 ports can be operated as additional WAN ports with load balancing. Ethernet ports can be electrically disabled within LCOS configuration. The ports support energy saving according to IEEE 802.3az
Port configuration	Each Ethernet port can be freely configured (LAN, DMZ, WAN, monitor port, off). LAN ports can be operated as a switch or separately. Additionally, external DSL modems or termination routers can be operated as a WAN port with load balancing and policy-based routing. DMZ ports can be operated with their own IP address range without NAT
USB 2.0 host port	USB 2.0 hi-speed host port for connecting USB printers (USB print server), serial devices (COM port server), USB data storage (FAT file system); bi-directional data exchange is possible
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)

Management and monitoring

Management	LANCOM Management Cloud, LANconfig, WEBconfig, WLAN controller, LANCOM Layer 2 management (emergency management)
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 separately), 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

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Management and monitoring

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
Netflow	Export of information about incoming and outgoing IP traffic
SD-LAN	SD-LAN – automatic LAN configuration via the LANCOM Management Cloud
SD-WAN	SD-WAN – automatic WAN configuration via the LANCOM Management Cloud

Hardware

Weight	1,05 lbs (478 g)
Power supply	12 V DC, external power adapter (230 V) with bayonet cap to protect against accidentally unplugging
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; 210 x 45 x 140 mm (W x H x D)
Fans	1 silent fan
Power consumption (max)	9 watt

Declarations of conformity*

Europe/EFTA	CE
IPv6	IPv6 Ready Gold
Country of Origin	Made in Germany
*) Note	You will find all declarations of conformity on our website at www.lancom-systems.com/doc

Scope of delivery

Manual	Hardware Quick Reference (DE/EN), Installation Guide (DE/EN)
Cable	1 Ethernet cable, 3 m
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

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Support

Warranty	3 years For details, please refer to the General Warranty Conditions at: www.lancom-systems.com/warranty-conditions
Software updates	Regular free updates as part of the LANCOM Software Lifecycle Managements (www.lancom-systems.com/lifecycle)
Manufacturer support	Free technical manufacturer support as part of the LANCOM Software Lifecycle Management (www.lancom-systems.com/lifecycle).

Software

Software Lifecycle Management	After discontinuation, the device is subject to the LANCOM Software Lifecycle Management. Details can be found at: www.lancom-systems.com/lifecycle
Anti-backdoor policy	Products from LANCOM are free of hidden access paths (backdoors) and other undesirable features for introducing, extracting or manipulating data. The trust seal "IT Security made in Germany" (ITSMIG) and certification by the German Federal Office for Information Security (BSI) confirm the trustworthiness and the outstanding level of security.

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 BPjM Filter	LANCOM BPjM Filter Option, 5 years subscription, item no. 61418
LANCOM Warranty Basic Option S	Option to extend the manufacturer's warranty from 3 to 5 years, item no. 10710
LANCOM Warranty Advanced Option S	Option to extend the manufacturer's warranty from 3 to 5 years and replacement of a defective device, item no. 10715
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
LANCOM All-IP Lizenz Option	Upgrade option for the operation of the LANCOM routers with All-IP connections, support of PBX systems and telephony devices as well as voice & fax services, incl. Voice Call Manager, item no. 61419
LANCOM Public Spot PMS Accounting Plus	Extension of the LANCOM Public Spot (XL) Option for the connection to hotel billing systems with FIAS interface (such as Micros Fidelio) for authentication and billing of guest accesses for 178x/19xx routers, WLCs, and current central-site gateways, item no. 61638

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Options

LANCOM WLC Basic Option for Routers	LANCOM WLC Basic Option for Routers for up to 6 managed LANCOM access points or WLAN routers, item no. 61639
LANCOM VoIP +10 Option	Upgrade for LANCOM VoIP router with 10 additional internal VoIP numbers (additionally up to 40) and 10 external SIP lines (additionally up to 55) item no. 61423

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
LANCOM LMC-B-10Y LMC License	LANCOM LMC-B-5Y License (10 Years), enables the management of one category B device for ten years via the LANCOM Management Cloud, item no. 50133

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
19" Rack Mount	19" rack mount adaptor, item no. 61501
19" Rack Mount	19" rack mount plus adaptor, item no. 61644
LANCOM Wall Mount	For simple, theft-proof mounting of LANCOM devices with plastic housings, item no. 61349
LANCOM Wall Mount (White)	For simple, theft-proof mounting of LANCOM devices with plastic housings, item no. 61345
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
LANCOM Wireless ePaper USB	Update of LANCOM Wireless ePaper Displays in the 2.4 GHz frequency band, item no. 62225
VPN Client Software	LANCOM Advanced VPN Client for Windows 7,8/8.1,10,11 - single license, item no. 61600
VPN Client Software	LANCOM Advanced VPN Client for Windows 7,8/8.1,10,11 - 10 licenses, item no. 61601
VPN Client Software	LANCOM Advanced VPN Client for Windows 7,8/8.1,10,11 - 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

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Item number(s)

LANCOM 1790-4G+ (EU)	62135
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