

LANCOM LN-830U

Top Wi-Fi combined with IoT readiness



Modern wireless infrastructures are ready for enhancement with future technologies. This access point offers fast 11ac Wave 1 Wi-Fi (Wi-Fi 5) and additional IoT readiness. The integrated USB port makes it easy to integrate supported IoT modules into existing Wi-Fi infrastructures. Companies and brick-and-mortar retailers benefit from versatile applications as well as from a high-performance and extendable Wi-Fi network.

- → Dual-concurrent Wi-Fi—parallel operation at 2.4 GHz and 5 GHz in IEEE 802.11ac (Wi-Fi 5) and IEEE 802.11n (Wi-Fi 4)
- → USB 2.0 port for the future integration of supported IoT radio systems
- → Power supply optionally by Power over Ethernet (IEEE 802.3af) or power-supply unit
- → Zero-touch deployment by LANCOM WLAN controller or LANCOM Management Cloud
- → Elegant LANCOM design with integrated antennas
- $\rightarrow\,$ User-friendly and secure integration of external users through the LANCOM Public Spot Option
- → Available as a single device or as a 10-piece bulk package for larger installations



LANCOM LN-830U

Dual concurrent Wi-Fi with up to 867 Mbps

The LANCOM LN-830U features one Wi-Fi radio module for IEEE 802.11ac (Wi-Fi 5) and another for IEEE 802.11n (Wi-Fi 4). This provides fast Wi-Fi to 11n-clients in the 2.4-GHz frequency band and also the growing number of modern 11ac-enabled devices in the 5-GHz band.

IoT-ready

The aim of the IoT ("Internet of Things") is to capture information about physical "things", mostly by wireless, and to make it accessible over the network. The integrated USB port of the LANCOM LN-830U enables supported IoT wireless systems* to easily connect to the existing Wi-Fi infrastructure.

* First LANCOM IoT USB modules available as from Q3/2019

Dynamic radio-field optimization from Active Radio Control

The LANCOM LN-830U supports the Wi-Fi optimizing LANCOM Active Radio Control. This intelligent combination of innovative features in the LCOS operating system—including Adaptive Noise Immunity, Adaptive RF Optimization, Airtime Fairness and Client Management—sustainably improves Wi-Fi performance and supports administrators with professional tools for Wi-Fi management.

High-performance Wi-Fi diagnosis with Spectral Scan

The Spectral Scan function enables the LANCOM LN-830U to search its radio field for interference sources, so providing a professional tool for efficient Wi-Fi troubleshooting. By scanning the entire frequency spectrum, sources of interference in the radio field can be identified and displayed graphically.

High-performance Wi-Fi diagnosis with Spectral Scan

With numerous integrated security features such as IEEE 802.1X, this access point provides optimal security for networks. Administrators and employees alike benefit from professional security policies on the network.

Zero-touch deployment

The LANCOM LN-830U can be versatilely operated: Managed via the LANCOM Management Cloud it is integrated into a comprehensive, automated network orchestration, based on Software-defined Networking technology. It can also be operated via a LANCOM WLAN controller or be applied in stand-alone operation.

Secure integration of external users

In combination with the LANCOM Public Spot Option, the LANCOM LN-830U is ideal for operating hotspots. Users benefits from a hotspot that is secure and easy-to-use, while hotspot operators can be sure that their own network remains separate from the hotspot.



LANCOM LN-830U

Maximum future viability

The LANCOM LN-830U supports what is currently the fastest WLAN standard, so that customers are well prepared for future challenges. What's more, LANCOM products are designed for a service life of several years and are equipped with hardware dimensioned for the future. Even reaching back to older product generations, updates to the LANCOM Operating System—LCOS—are available several times a year, free of charge and offering major features.



WLAN product specifications	
Frequency band 2.4 GHz and 5 GHz	2400-2483.5 MHz (ISM), 5150-5350 MHz and 5470-5725 MHz (depending on country-specific restrictions)
Integrated Antenna Gain (per antenna (2))	up to 3 dBi in 2.4 GHz, up to 4.5 dBi in 5 GHz
Data rates IEEE 802.11ac/n	867 Mbps according to IEEE 802.11ac with MCS9 (fallback to 6,5 Mbps with MCS0). Compatible to IEEE 802.11ac/n/a, IEEE 802.11 ac/n, IEEE 802.11n/a compatibility mode or pure IEEE 802.11ac, pure IEEE 802.11n, pure IEEE 802.11a mode and data rates selectable
Data rates IEEE 802.11n	300 Mbps according to IEEE 802.11n with MCS15 (fallback to 6,5 Mbps with MCS0). Compatible to IEEE 802.11a/n, IEEE 802.11g/n, IEEE 802.11b/g/n or IEEE 802.11b/g compatibility mode or pure IEEE 802.11n, pure IEEE 802.11a, IEEE 802.11g or pure IEEE 802.11b mode and data rates selectable
Data rates IEEE 802.11a/ h	54 Mbps (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection), fully compatible with TPC (adjustable power output) and DFS (automatic channel selection, radar detection) and data rates selectable
Data rates IEEE 802.11b/g	54 Mbps to IEEE 802.11g (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection) compatible to IEEE 802.11b (11, 5.5, 2, 1 Mbps, Automatic Rate Selection), IEEE 802.11b/g compatibility mode or pure IEEE 802.11g or pure IEEE 802.11b and data rates selectable
Range IEEE 802.11ac/n/a/g/b *	Up to 150 m (up to 30 m in buildings)
Output power at radio module WLAN-1, 5 GHz	Maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements. IEEE 802.11a/h: +17 up to +18 dBm @ 6 up to 48 Mbps, +13 up to +15 dBm @ 54 Mbps, IEEE 802.11n: +17 up to +18 dBm @ (MCS0/8/16, 20 MHz), +11 up to +13 dBm @ (MCS7/15/23, 20 MHz), +16 up to +17 dBm @ (MCS0/8/16, 40 MHz), +9 up to +12 dBm @ (MCS7/15/23, 40 MHz)
Output power at radio module WLAN-2, 5 GHz	Maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements. IEEE 802.11a/h: +18 dBm @ 6 up to 48 MBit/s and +16 dBm @ 54 MBit/s IEEE 802.11ac: +16 up to +18 dBm @ (MCS0-7, 20/40/80 MHz), +14 dBm @ (MCS8, 20/40/80 MHz), +14 dBm @ (MCS9, 40/80 MHz)
Output power at radio module WLAN-1, 2.4 GHz	Maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements. IEEE 802.11b: +22 dBm @ 1 and 2 Mbps, +22 dBm @ 5,5 and 11 Mbps, IEEE 802.11g: +22 dBm @ 6 up to 36 Mbps, +20 dBm @ 48 Mbps, +18 dBm @ 54 Mbps, IEEE 802.11n: +22 dBm @ (MCS0/8/16, 20 MHz), +16 dBm @ (MCS7/15/23, 20 MHz), +21 dBm @ (MCS0/8/16, 40 MHz), +15 dBm @ (MCS7/15/23, 40 MHz)
Minimum transmission power	Transmission power reduction in software in 1 dB steps to min. 0.5 dBm
Receiver sensitivity WLAN-1, 5 GHz	IEEE 802.11a/h: -98 dBm @ 6 Mbps, -81 dBm @ 54 Mbps, IEEE 802.11n: -94 dBm @ (MCS0, 20 MHz), -76dBm @ (MCS 7, 20 MHz), -92 dBm @ (MCS0, 40 MHz), -72 dBm @ (MCS7, 40 MHz)
Receiver sensitivity WLAN-2, 5 GHz	IEEE 802.11a/h: -95 dBm @ 6 MBit/s, -76 dBm @ 54MBit/s, IEEE 802.11ac: -94 dBm @ MCS0 20 MHz, -76 dBm @ MCS7 20 MHz, -72 dBm @ MCS8 20 MHz, -92 dBm @ MCS0 40 MHz, -76 dBm @ MCS7 40 MHz, -71 dBm @ MCS8 40 MHz, -70 dBm @ MCS9 40 MHz, -90 dBm @ MCS0 80 MHz, -72 dBm @ MCS7 80 MHz, -68 dBm @ MCS8 80 MHz, -67 dBm @ MCS9 80 MHz
Receiver sensitivity WLAN-1, 2.4 GHz	IEEE 802.11b: -97 dBm @ 1 MBit/s, -93 dBm @ 11 MBit/s, IEEE 802.11g: -95dBm @ 6 MBit/s, -81dBm @ 54 MBit/s IEEE 802.11n: -94 dBm @ 6,5MBit/s (MCS0, 20 MHz), -77 dBm @ 65 MBit/s (MCS7, 20 MHz), -91 dBm @ 15 MBit/s (MCS0, 40 MHz), -74 dBm @ 150 MBit/s (MCS7, 40 MHz)



WLAN product specifications	
Up to 26 non-overlapping channels (available channels and further obligations such as automatic DFS dynamic channel selection depending on national regulations)	
Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions)	
Up to 31 (Simultaneous use of up to 16 independent WLAN networks at WLAN interface 1 and up to 15 independent WLAN networks at WLAN interface 2; time-controlled activation and deactivation of WLAN networks	
Up to 256 clients (recommended) **	
Wireless Quality Indicators (WQI), Hotspot 2.0	
The effective distances and transmission rates that can be achieved are depending of the onsite RF conditions	
The 11ac WLAN module supports max. 128 clients, this specification refers to the combination with the 11n radio module.	
IEEE 802.11ac (Wi-Fi 5), IEEE 802.11n (Wi-Fi 4), IEEE 802.11a, IEEE 802.11g, IEEE 802.11b, IEEE 802.11i, IEEE 802.1X, IEEE 802.11u, IEEE 802.11r (Fast Roaming), IEEE 802.11w (Protected Management Frames), WME and U-APSD/WMM Power Save as defined in IEEE 802.11e, IEEE 802.11h, IEEE 802.11d	
i 5)	
2x2 MIMO, 80 MHz channels, QAM-256	
4)	
2x2 MIMO, 40 MHz channel, 20/40MHz coexistence mechanisms in the 2.4 GHz band, MAC aggregation, Block Acknowledgement, STBC (Space Time Block Coding), LDPC (Low Density Parity Check), MRC (Maximal Ratio Combining), Short Guard Interval	
WLAN access point (standalone, WLC or LANCOM Management Cloud managed), WLAN bridge (P2P or P2MP) (standalone or AutoWDS*), (standalone, WLC or LANCOM Management Cloud managed), WLAN client mode, transparent WLAN client mode	
WPA3-Personal, IEEE 802.1X (WPA3-Enterprise, WPA2-Enterprise), IEEE 802.11i (WPA2-Personal), Wi-Fi Certified™ WPA2™, WPA, WEP, IEEE 802.11w (Protected Management Frames), LEPS-MAC (LANCOM Enhanced Passphrase Security MAC), LEPS-U (LANCOM Enhanced Passphrase Security User)	
AES-CCMP AES-GCMP, TKIP, RC4 (only used by WEP)	
EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-FAST	



Security	
RADIUS/EAP-server	User administration MAC-based, rate limiting, passphrases, VLAN user based, authentication of IEEE 802.1X clients via EAP-TLS, EAP-TTLS, EAP-MD5, EAP-GTC, PEAP, MSCHAP, MSCHAPv2, Dynamic Peer Discovery
Others	WLAN protocol filters, IP-redirection of any packet received over the WLAN interface, IEEE 802.1X supplicant, background scanning, client detection ("rogue WLAN client detection"), Wireless Intrusion Detection System (WIDS), RADIUS CoA (Change of Authorization)
LANCOM Active Radio Contr	ol
Client Management	Steering of WLAN clients to the ideal access point using 802.11k and 802.11v
Band Steering	Steering of 5GHz clients to the corresponding high-performance frequency band
Managed RF Optimization*	Selection of optimal WLAN channels by the administrator
Adaptive Noise Immunity	Better WLAN throughput due to immunity against interferences
Spectral Scan	Monitoring your WLAN for sources of interference
Adaptive RF Optimization	Dynamic selection of the optimal WLAN channel
Airtime Fairness	Improved utilization of the WLAN bandwidth
Adaptive Transmission Power	Automatic adjustment of the transmission power for Wi - Fi backup scenarios
*) Note	Only in installations with WLAN controller
Roaming	
Roaming	IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus)
Layer 2 features	
VLAN	4.096 IDs based on IEEE 802.1q, dynamic assignment
Quality of Service	WME based on IEEE 802.11e, Wi-Fi Certified™ WMM®
Rate limiting	SSID based, WLAN client based
Multicast	IGMP-Snooping, MLD-Snooping, Multicast-to-Unicast-conversion on WLAN interfaces
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 paket filtering, extended port forwarding, N:N IP address mapping, paket tagging, support for DNS targets, user-defined rules and notifications



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LCOS 10.80

Layer 3 features	
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
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
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, Syslog, SNMPv1,v2c,v3, MLDv2, NPTv6 (NAT66)
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, 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
Interfaces	
Ethernet ports	2 x 10/100/1000BASE-T autosensing (RJ-45), IEEE 802.3az, PoE (Power over Ethernet) at ETH1
USB	USB 2.0 hi-speed host port
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
Internal antennas per radio module	Radio module 1 and 2 use two internal antennas



Supported IoT USB module	s
IoT USB modules	LANCOM Wireless ePaper USB
Hardware	
Environment	Temperature range 0° to +40°C; humidity up to 95%; non-condensing
Power consumption (max)	Approx. 11 W via power adapter (value refers to the power of the access point without power adapter), about 12 W via PoE, in each case max. +3 W when operating the USB port
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; 205 x 42 x 205 mm (W x H x D)
Management and monitoring	ng
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 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, Layer 7 Application Detection including application-centric tracking of traffic volume
lPerf	IPerf is a tool for measurements of the bandwidth on IP networks (integrated client and server)
SLA-Monitor (ICMP)	Performance monitoring of connections
SD-WLAN	SD-WLAN – automatic WLAN configuration via the LANCOM Management Cloud
SD-LAN	SD-LAN – automatic LAN configuration via the LANCOM Management Cloud
Declarations of conformity	*
CE	EN 62368, EN 301 489-1, EN 301 489-17
5 GHz WLAN	EN 301 893
2.4 GHz WLAN	EN 300 328

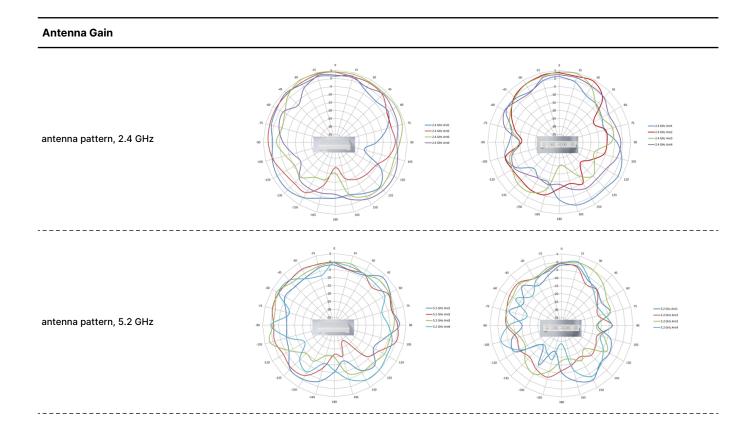


Declarations of conformity*		
IPv6	IPv6 Ready Gold	
Country of Origin	Made in Germany	
*) Note	You will find all declarations of conformity in the products section of our website at www.lancom-systems.com	
Scope of delivery		
Manual	Installation Guide (DE/EN/FR/ES/IT/PT/NL)	
Cable	1 Ethernet cable, 3 m	
Power supply unit	External power adapter, NEST 12 V / 2 A DC/S, barrel connector 2.1 / 5.5 mm, LANCOM item no. 111760 (not for WW devices)	
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 Lifecycle Managements (<u>www.lancom-systems.com/lifecycle</u>)	
Manufacturer support	Technical manufacturer support as part of a support contract (LANcommunity partner, LANcare Direct, or LANcare Premium Support)	
LANcare Basic S	Security updates and manufacturer support until EOL status (min. 5 years, support contract required: LANcommunity partner, LANcare Direct, or LANcare Premium Support), 5 years replacement service with shipment of the device within 5 days after arrival of the faulty device (8/5/5Days), 10720	
LANcare Advanced S	Security updates and manufacturer support until EOL status (min. 5 years, support contract required: LANcommunity partner, LANcare Direct, or LANcare Premium Support), 5 years NBD advance replacement with delivery of the device on the next business day (8/5/NBD), item no. 10730	
LANcare Direct Advanced 24/7 S	Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, NBD advance replacement with delivery of the device on the next business day (24/7/NBD), guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10776, 10777 or 10778)	
LANcare Direct 24/7 S	Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10752, 10753 or 10754)	
LANcare Direct Advanced 10/5 S	Direct, prioritized 10/5 manufacturer support and security updates for the device, NBD advance replacement with delivery of the device on the next business day (10/5/NBD), guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years.(item no. 10764, 10765 or 10766)	
LANcare Direct 10/5 S	Direct, prioritized 10/5 manufacturer support and security updates for the device, guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years.(item no. 10740, 10741 or 10742)	



Software	
Lifecycle Management	After discontinuation (End of Sale), the device is subject to the LANCOM 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	
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 Management Cloud	
LANCOM LMC-A-1Y LMC License	LANCOM LMC-A-1Y License (1 Year), enables the management of one category A device for one year via the LANCOM Management Cloud, item no. 50100
LANCOM LMC-A-3Y LMC License	LANCOM LMC-A-3Y License (3 Years), enables the management of one category A device for three years via the LANCOM Management Cloud, item no. 50101
LANCOM LMC-A-5Y LMC License	LANCOM LMC-A-5Y License (5 Years), enables the management of one category A device for five years via the LANCOM Management Cloud, item no. 50102
Accessories	
LANCOM WLAN controllers	LANCOM WLC-30, ArtNr. 61789 (EU), LANCOM WLC-1000, ArtNr. 61783 (EU), LANCOM WLC Basic Option for Routers, ArtNr. 61639
LANCOM Wall Mount LN	Robust mounting plate for simple, theft-proof mounting of LANCOM devices with LN housing, Item no. 61342
LANCOM WLAN PSU (EU, white, Bulk 10)	10x white LANCOM WLAN PSU 230V to 12V/2A DC power adapter, item no. 61814
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 PoE++ Injector (EU)	1-port PoE injector with multi-Gigabit support, integrated power supply, compatible with the standard IEEE 802.3af/at/bt (up to 65W), item no. 61779 (EU)
Item number(s)	
LANCOM LN-830U (EU)	61797
LANCOM LN-830U (WW)	61798
LANCOM LN-830U (Bulk 10)	61799







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