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## LANCOM XAP-40-2

### Industrial access point for automation and control

- High availability and WLAN redundancy through two radio modules
- 5-fold redundant power supply
- Access point and access client in one device
- Compact for space-saving top-hat rail mounting
- Maximum security from IEEE 802.11i, authentication and LEPS
- Built-in IP router and firewall
- VLAN and Multi-SSID separate user groups
- 2.4 and 5 GHz

The industrial access point LANCOM XAP-40-2 meets all of the demands that industrial settings place on wireless LAN. It features a robust metal housing which is suitable for top-hat rail or wall mounting. It is equipped to ensure high availability and redundancy and includes dual LAN ports which can both be fed by Power over Ethernet (IEEE 802.3af). Three further power sources can be used as well: 12V DC and two-times 24V DC. Operational reliability is assured over an extended temperature range of -20 °to +50 °which, being achieved without the use of a heater, ensures that power consumption is low.

Each WLAN module has two RP-SMA antenna connectors which are suitable for any of the LANCOM Systems range of AirLancer Extender antennas. This range of products includes polarization diversity antennas which ensure stable connections in industrial settings.

#### **More flexibility.**

Two integrated wireless-LAN modules can be set to 2.4 GHz (802.11b/g) or 5 GHz (802.11a/h) and offer you the full range of options in setting up wireless LAN networks. High availability is achieved by using the WLAN modules redundantly. These can also be used for WLAN relay or in a WDS (Wireless Distribution System).

#### **More Security.**

Maximum security is guaranteed by the integrated firewall and the full range of protective mechanisms for WLAN, including IEEE 802.11i with IEEE 802.1x authentication, WLAN filters and LEPS. Further features are fast roaming, rogue AP detection, and QoS compliant with IEEE 802.11e, all of which satisfy the very latest demands of wireless LANs.

#### **More Management.**

LANCOM developments are focused on performance, security and on management, too. LANCOM's WLAN Controllers offer real benefits to network administrators for the installation, control and monitoring of access points. Settings for wireless, encryption, or access-control lists can be grouped into device configurations, which are then executed for multiple access points in one easy move. Access points are commissioned and RF optimization carried out automatically. Changes are transmitted to all of the devices automatically and subsequently monitored. WLANmonitor visualizes the structures of the WLAN irrespective of physical location and facilitates the central surveillance of the entire wireless network.

#### **What's more...**

To complete the WLAN portfolio, LANCOM also offers suitable AirLancer client adapters and a large selection of high-end antennas for professional indoor and outdoor applications.

WLAN	
Frequency band 2.4 GHz and 5 GHz	2400 - 2483.5 MHz (ISM) and 5150-5825 MHz (depending on country-specific restrictions)
Frequency band 2.4 GHz and 5 GHz (FCC compliant)	2400 - 2483.5 MHz (ISM, World Mode) and 5150-5250 or 5725-5825 MHz
Data rates 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), 802.11 b/g compatibility mode or pure g or pure b, Super A/G with Turbo Mode (108 Mbps), bursting, compression
Data rates 802.11a/ h	54 Mbps to IEEE 802.11a/h (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection), Super A/G with Turbo Mode (108 Mbps), bursting, compression, fully compatible with TPC (adjustable power output) and DFS (automatic channel selection, radar detection) according to ETSI regulations.
Range 802.11a/b/g *	Up to 150 m (up to 30 m in buildings) *
Output power at antenna connector, 2.4 GHz	802.11b: +19 dBm @ 1 and 2 Mbps, +19 dBm @ 5.5 and 11 Mbps; 802.11g: +19 dBm @ 6 Mbps, +14 dBm @ 54 Mbps
Output power at antenna connector, 5 GHz	802.11a/h: +18 dBm @ 6 Mbps, +12 dBm @ 54 Mbps with transmission power control (TPC) and manual power settings
Max. radiated power (EIRP), 2.4 GHz band	802.11b/g: Up to 20 dBm / 100 mW EIRP (transmission power control according to TPC or manual settings)
Max. radiated power (EIRP), 5 GHz band	802.11a/h: Up to 30 dBm / 1000 mW or up to 36 dBm / 4000 mW EIRP (depending on national regulation on channel usage and subject to further obligations such as TPC and DFS)
Minimum transmission power	Transmission power reduction in software in 1 dB steps to min. 0.5 dBm
Reception sensitivity 2.4 GHz	802.11b: -87 dBm @ 11 Mbps, -94 dBm @ 1 Mbps
Radio channels 2.4 GHz	Up to 13 channels, max. 3 non-overlapping (2.4 GHz band)
Radio channels 5 GHz	Up to 26 non-overlapping channels (available channels and further obligations such as automatic DFS2 dynamic channel selection depending on national regulation)
Roaming	Seamless handover between radio cells, IAPP support with optional restriction to an ARF context, IEEE 802.11d support
WPA2 fast roaming	Pre-authentication and PMK caching for fast roaming
Fast client roaming	With background scanning, moving LANCOM 'client mode' access points pre-authenticate to alternative access points which offer a better signal before Roaming fails
VLAN	VLAN ID definable per interface, WLAN SSID, point-to-point connection and routing context (4094 IDs)
Dynamic VLAN assignment	Dynamic VLAN assignment for target user groups based on MAC addresses, BSSID or SSID by means of external RADIUS server.
Q-in-Q tagging	Support of layered 802.1q VLANs (double tagging)
Multi-SSID	Simultaneous use of up to 8 independent WLAN networks per WLAN interface
IGMP snooping	Support for Internet Group Management Protocol (IGMP) in the WLAN bridge for WLAN SSIDs and LAN interfaces for specific switching of multicast packets (devices with integrated WLAN only). Automated detection of multicast groups. Configurable action for multicast packets without registration. Configuration of static multicast group members per VLAN ID. Configuration of query simulation for multicast membership per VLAN ID
Security	IEEE 802.11i / WPA2 with passphrase or 802.1x and hardware-accelerated AES, closed network, WEP64, WEP128, WEP152, user authentication, 802.1x /EAP, LEPS, WPA1/TKIP
RADIUS server	Integrated RADIUS server for MAC address list management
EAP server	Integrated EAP server for authentication of 802.1x clients via EAP-TLS, EAP-TTLS, PEAP, MSCHAP or MSCHAPv2
Quality of Service	Prioritization according to Wireless Multimedia Extensions (WME, subset of IEEE 802.11e)
U-APSD/WMM Power Save	Extension of power saving according to IEEE 802.11e by Unscheduled Automatic Power Save Delivery (equivalent to WMM Power Save). U-APSD supports the automatic switch of clients to a doze mode. Increased battery lifetime for telephone calls over VoWLAN (Voice over WLAN)
Bandwidth limitation	Maximum transmit and receive rates and an individual VLAN ID can be assigned to each WLAN client (MAC address)
Background scanning	Detection of rogue AP's and the channel information for all WLAN channels during normal AP operation.  The Background Scan Time Interval defines the time slots in which an AP or Router searches for a foreign WLAN network in its vicinity. The time interval can be specified in either milliseconds, seconds, minutes, hours or days
Client detection	Rogue WLAN client detection based on probe requests
802.1x supplicant	Authentication of an access point in WLAN client mode at another access point via 802.1x (EAP-TLS, EAP-TTLS and PEAP)
*) Note	The effective distances and transmission rates that can be achieved are depending of the site RF conditions

<b>WLAN operating modes</b>	
WLAN access point	Infrastructure mode (autonomous operation or managed by LANCOM WLAN Controller)
WLAN bridge	Point-to-multipoint connection of up to 7 Ethernet LANs (mixed operation optional), broken link detection, blind mode, supports VLAN  When configuring Pt-to-Pt links, pre-configured names can be used as an alternative to MAC Adresses for creating a link. Rapid spanning-tree protocol to support redundant routes in Ethernet networks
WLAN router	Use of the LAN connector for simultaneous DSL over LAN, IP router, NAT/Reverse NAT (IP masquerading) DHCP server, DHCP client, DHCP relay server, DNS server, PPPoE client (incl. Multi-PPPoE), PPTP client and server, NetBIOS proxy, DynDNS client, NTP, port mapping, policy-based routing based on routing tags, tagging based on firewall rules, dynamic routing with RIPv2, VRRP
WLAN client	Transparent WLAN client mode for wireless Ethernet extensions, e.g. connecting PCs or printers by Ethernet; up to 64 MAC addresses. Automatic selection of a WLAN profile (max. 8) with individual access parameters depending on signal strength or priority
<b>Firewall</b>	
Stateful inspection firewall	Incoming/Outgoing Traffic inspection based on connection information. Trigger for firewall rules depending on backup status, e.g. simplified rule sets for low-bandwidth backup lines. Limitation of the number of sessions per remote site (ID)
Packet filter	Check based on the header information of an IP packet (IP or MAC source/destination addresses; source/destination ports, DiffServ attribute); remote-site dependant, direction dependant, bandwidth dependant
Extended port forwarding	Network Address Translation (NAT) based on protocol and WAN address, i.e. to make internal webservers accessible from WAN
N:N IP address mapping	N:N IP address mapping for translation of IP addresses or entire networks
Tagging	The firewall marks packets with routing tags, e.g. for policy-based routing
Actions	Forward, drop, reject, block sender address, close destination port, disconnect
Notification	Via e-mail, SYSLOG or SNMP trap
<b>Quality of Service</b>	
Traffic shaping	Dynamic bandwidth management with IP traffic shaping
Bandwidth reservation	Dynamic reservation of minimum and maximum bandwidths, totally or connection based, separate settings for send and receive directions. Setting relative bandwidth limits for QoS in percent
DiffServ/TOS	Priority queuing of packets based on DiffServ/TOS fields
Packet-size control	Automatic packet-size control by fragmentation or Path Maximum Transmission Unit (PMTU) adjustment
Layer 2/Layer 3 tagging	Automatic or fixed translation of layer-2 priority information (802.11p-marked Ethernet frames) to layer-3 DiffServ attributes in routing mode. Translation from layer 3 to layer 2 with automatic recognition of 802.11p-support in the destination device
<b>Security</b>	
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
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
WLAN protocol filters	Limitation of the allowed transfer protocols, source and target addresses on the WLAN interface
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
<b>High availability / redundancy</b>	
VRRP	VRRP (Virtual Router Redundancy Protocol) for backup in case of failure of a device or remote station. Enables passive standby groups or reciprocal backup between multiple active devices including load balancing and user definable backup priorities
FirmSafe	For completely safe software upgrades thanks to two stored firmware versions, incl. test mode for firmware updates
Analog/GSM modem backup	Optional operation of an analog or GSM modem at the serial interface
Line monitoring	Line monitoring with LCP echo monitoring, up to 4 addresses for end-to-end monitoring with ICMP polling

Routing functions	
Router	IP and NetBIOS/IP multi-protocol router
ARP lookup	Packets sent in response to LCOS service requests (e.g. for Telnet, SSH, SNTP, SMTP, HTTP(S), SNMP, etc.) via Ethernet can be routed directly to the requesting station (default) or to a target determined by ARP lookup
Advanced Routing and Forwarding	Separate processing of 8 contexts due to virtualization of the routers. Mapping to VLANs and complete independent management and configuration of IP networks in the device, i.e. individual settings for DHCP, DNS, Firewalling, QoS, VLAN, Routing etc. Automatic learning of routing tags for ARF contexts from the routing table
HTTP	HTTP and HTTPS server for configuration by web interface
DNS	DNS client, DNS server, DNS relay, DNS proxy and dynamic DNS client
DHCP	DHCP client, DHCP relay and DHCP server with autodetection. Cluster of several LANCOM DHCP servers per context (ARF network) enables caching of all DNS assignments at each router
NetBIOS	NetBIOS/IP proxy
NTP	NTP client and SNTP server, automatic adjustment for daylight-saving time
Policy-based routing	Policy-based routing based on routing tags. Based on firewall rules, certain data types are marked for specific routing, e.g. to particular remote sites or lines
Dynamic routing	Dynamic routing with RIPv2. Learning and propagating routes; separate settings for LAN and WAN. Extended RIPv2 including HopCount, Poisoned Reverse, Triggered Update for LAN (acc. to RFC 2453) and WAN (acc. to RFC 2091) as well as filter options for propagation of routes. Definition of RIP sources with wildcards
COM port server	
COM port forwarding	COM-port server for the DIN interface. For a serial device connected to it, the server manages its own virtual COM port via Telnet (RFC 2217) for remote maintenance (works with popular virtual COM-port drivers compliant with RFC 2217). Switchable newline conversion and alternative binary mode. TCP keepalive according to RFC 1122 with configurable keepalive interval, retransmission timeout and retries
LAN protocols	
IP	ARP, proxy ARP, BOOTP, DHCP, DNS, HTTP, HTTPS, IP, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RIP-1, RIP-2, RTP, SIP, SNMP, TCP, TFTP, UDP, VRRP, VLAN
Rapid Spanning Tree	802.1d Spanning Tree and 802.1w Rapid Spanning Tree support for dynamic path selection with redundant layer 2 connections
WAN protocols	
Ethernet	PPPoE, Multi-PPPoE, ML-PPP, PPTP (PAC or PNS) and plain Ethernet (with or without DHCP), RIP-1, RIP-2, VLAN, IP
Interfaces	
LAN	10/100Base-TX, autosensing, auto node hub, PoE compliant with IEEE 802.3af
2nd LAN port	10/100Base-TX, autosensing, auto node hub, PoE compliant with IEEE 802.3af
Serial interface	Serial configuration interface / COM port (8 pin Mini-DIN): 9,600 - 115,000 baud, suitable for optional connection of analog/GPRS modems
External antenna connectors	Four reverse SMA connectors for external LANCOM AirLancer Extender antennas or for antennas from other vendors. Please respect the restrictions which apply in your country when setting up an antenna system. For information about calculating the correct antenna setup, please refer to <a href="http://www.lancom-systems.com">www.lancom-systems.com</a>
Management	
LANconfig	Configuration program for Microsoft Windows, incl. convenient Setup Wizards. Optional group configuration, simultaneous remote configuration and management of multiple devices over IP connection (HTTPS, HTTP, TFTP). Configuration program properties per project or user. Automatic storage of the current configuration before firmware updates. Exchange of configuration files between similar devices, e.g. for migrating existing configurations to new LANCOM products. Detection and display of the LANCOM managed switches
LANmonitor	Monitoring application for Microsoft Windows for (remote) surveillance and logging of the status of LANCOM devices and connections, incl. PING diagnosis and TRACE with filters and save to file. Search function within TRACE tasks. Wizards for standard diagnostics. Export of diagnostic files for support purposes (including bootlog, sysinfo and device configuration without passwords). Graphic display of key values (marked with an icon in LANmonitor view) over time as well as table for minimum, maximum and average in a separate window, e. g. for Rx, Tx, CPU load, free memory. Monitoring of the LANCOM managed switches
WLANmonitor	Monitoring application for Microsoft Windows for the visualization and monitoring of LANCOM WLAN installations, incl. Rogue AP and Rogue Client visualization
Firewall GUI	Graphical user interface for configuring the object-oriented firewall in LANconfig: Tabular presentation with symbols for rapid understanding of objects, choice of symbols for objects, objects for actions/Quality of Service/remote sites/services, default objects for common scenarios, individual object definition (e.g. for user groups)
WEBconfig	Integrated web server for the configuration of LANCOM devices via Internet browsers with HTTPS or HTTP. Similar to LANconfig with a system overview, syslog and events display, symbols in the menu tree, quick access with side tabs. WEBconfig also features Wizards for basic configuration, security, Internet access, LAN-LAN coupling. Online help for parameters in LCOS menu tree
Device Syslog	Syslog buffer in the RAM (size depending on device memory) to store events for diagnosis. Default set of rules for the event protocol in Syslog. The rules can be modified by the administrator. Display and saving of internal Syslog buffer (events) from LANCOM devices with LANmonitor, display only with WEBconfig
Access rights	Individual access and function rights for up to 16 administrators

<b>Management</b>	
User administration	RADIUS user administration for dial-in access (PPP/PPTP). Support for RADSEC (Secure RADIUS) providing secure communication with RADIUS servers
Remote maintenance	Remote configuration with Telnet/SSL, SSH (with password or public key), browser (HTTP/HTTPS), TFTP or SNMP, firmware upload via HTTP/HTTPS or TFTP
TACACS+	Support of TACACS+ protocol for authentication, authorization and accounting (AAA) with reliable connections and encrypted payload. Authentication and authorization are separated completely. LANCOM access rights are converted to TACACS+ levels. With TACACS+ access can be granted per parameter, path, command or functionality for LANconfig, WEBconfig or Telnet/SSH. Each access and all changes of configuration are logged. Access verification and logging of SNMP Get and Set requests. WEBconfig supports the access rights of TACACS+ and choice of TACACS+ server at login. LANconfig provides a device login with the TACACS+ request conveyed by the addressed device. Authorization to execute scripts and each command within them by checking the TACACS+ server's database. CRON, action-table and script processing can be diverted to avoid TACACS+ to relieve TACACS+ servers. Redundancy by setting several alternative TACACS+ servers. Configurable option to fall back to local user accounts in case of connection drops to the TACACS+ servers. Compatibility mode to support several free TACACS+ implementations
Remote maintenance of 3rd party devices	A remote configuration for devices behind der LANCOM can be accomplished (after authentication) via tunneling of arbitrary TCP-based protocols, e.g. for HTTP(S) remote maintenance of VoIP phones or printers of the LAN
TFTP & HTTP(S) client	For downloading firmware and configuration files from a TFTP, HTTP or HTTPS server with variable file names (wildcards for name, MAC/IP address, serial number), e.g. for roll-out management. Commands for live Telnet session, scripts or CRON jobs
Security	Access rights (read/write) over WAN or (W)LAN can be set up separately (Telnet/SSL, SSH, SNMP, HTTPS/HTTP), access control list
Scripting	Scripting function for batch-programming of all command-line parameters and for transferring (partial) configurations, irrespective of software versions and device types, incl. test mode for parameter changes. Utilization of timed control (CRON) or connection establishment and termination to run scripts for automation. Scripts can send e-mails with various command line outputs as attachments
SNMP	SNMP management via SNMP V2, private MIB exportable by WEBconfig, MIB II
Timed control	Scheduled control of parameters and actions with CRON service
Diagnosis	Extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, LANmonitor status display, internal logging buffer for SYSLOG and firewall events
LANCOM WLAN Controller	Supported by all LANCOM WLAN Controller (separate optional hardware equipment for installation, optimization, operating and monitoring of WLAN networks, except for P2P connections)
<b>Statistics</b>	
Statistics	Extensive Ethernet, IP and DNS statistics; SYSLOG error counter
Accounting	Connection time, online time, transfer volumes per station. Snapshot function for regular read-out of values at the end of a billing period. Timed (CRON) command to reset all counters at once
Export	Accounting information exportable via LANmonitor and SYSLOG
<b>Hardware</b>	
Power supply	12 V DC, external power adapter (230 V)
Power supply	Via Power over Ethernet, compliant with IEEE 802.3af
Power supply	2 x 24 V DC, redundant, with galvanic isolation, input voltage range 20 - 28 V
Environment	Temperature range -30 – +50°C; humidity 0–95%; non-condensing
Housing	Robust metal housing, IP 40 protection rating, connections on the front of the device; 80 x 100 x 135 mm (W x H x D), ready for wall and top-hat rail mounting
Power consumption (max)	ca. 10 Watts
<b>Declarations of conformity</b>	
CE	EN 301 489-1, EN 301 489-17, EN 60950
2.4 GHz WLAN	ETS 300 328
5 GHz WLAN	EN 301 893 version 1.4.1 (incl. DFS 2)
Industrial	EN 61000-6-2: Electromagnetic compability, Immunity for industrial environments
Programmable Controllers	EN 61131-2: 2003 Part 2: Equipment requirements and tests (Chapter 6.1.1; 6.1.2 (+5°– +55°6.3.1.1; 6.3.2; 6.3.3.1; 8.2; 8.3 (Zone B); 9.11; 9.12)
Railway Applications	EN 50155: 2001 + A1:2002 + Corrigendum 2003, Electronic Equipment used on rolling stock (Chapter 10.2.2; only AC mains power; 10.2.3; 10.2.4; 10.2.6.1; 10.2.6.2; 10.2.6.4; 10.2.7; 10.2.8; 10.2.9.1; 10.2.11)
Vehicles	Commission Directive 2006/28/EC of 6 March 2006, radio interference (electromagnetic compatibility) of vehicles
Notifications	Certifications notified in Germany, Belgium, Netherlands, Luxembourg, Austria, Switzerland, UK, Italy, Spain, France, Portugal
<b>Package content</b>	
Manual	Printed User Manual (DE, EN) and Quick Installation Guide (DE/EN/FR/ES/IT/PT/NL)
CD	CD with firmware, management software (LANconfig, LANmonitor, WLANmonitor) and documentation

Package content	
Cable	Serial configuration cable, 1.5m
Cable	1 Ethernet cable, 3m
Antennas	Two 3 dBi dipole dualband antennas
Support	
Warranty	3 years Support via Hotline and Internet KnowledgeBase
Software updates	Regular free updates (LCOS operating system and management tools) via Internet
Options	
Public Spot	LANCOM Public Spot Option (authentication and accounting software for hotspots, incl. Voucher printing through Standard PC printer), Item no. 60642.
Accessories	
LANCOM WLC-4006	LANCOM WLAN Controller for central management of 6 or 12 LANCOM access points and WLAN routers, item no. 61367
LANCOM WLC-4006 (UK)	LANCOM WLAN Controller for central management of 6 or 12 LANCOM access points and WLAN routers, item no. 61368 for UK
LANCOM WLC-4025+	LANCOM WLAN Controller for central management of 25, 50 or 100 LANCOM access points and WLAN routers, item no. 61378
LANCOM WLC-4025+ (UK)	LANCOM WLAN Controller for central management of 25, 50 or 100 LANCOM access points and WLAN routers, item no. 61379 for UK
LANCOM WLC-4100	LANCOM WLAN Controller for central management of 200, 500 or 1000 LANCOM access points and WLAN routers, item no. 61369
LANCOM WLC-4100 (UK)	LANCOM WLAN Controller for central management of 200, 500 or 1000 LANCOM access points and WLAN routers, item no. 61377 for UK
External antenna	AirLancer Extender O-30 2.4 GHz outdoor antenna, item no. 60478
External antenna	AirLancer Extender O-70 2.4 GHz outdoor antenna, item no. 60469
External antenna	AirLancer Extender O-9a 5 GHz outdoor antenna, item no. 61220
External antenna	AirLancer Extender O-18a 5 GHz outdoor antenna, item no. 61210
External antenna*	AirLancer Extender O-D80g 2.4 GHz 'dual linear' polarisation diversity outdoor sector antenna, item no. 61221
External antenna*	AirLancer Extender O-D60a 5 GHz 'dual linear' polarisation diversity outdoor sector antenna, item no. 61222
External antenna	AirLancer Extender O-360ag dualband omnidirectional outdoor antenna, item no. 61223
External antenna	AirLancer Extender I-60ag dualband indoor sector antenna, item no. 61214
External antenna	AirLancer Extender I-180 omnidirectional 2.4 GHz indoor antenna, item no. 60914
Antenna cable	AirLancer cable NJ-NP 3m antenna cable extension, item no. 61230
Antenna cable	AirLancer cable NJ-NP 6m antenna cable extension, item no. 61231
Antenna cable	AirLancer cable NJ-NP 9m antenna cable extension, item no. 61232
Surge arrestor (antenna cable)	AirLancer Extender SA-5L surge arrestor (2.4 and 5 GHz), item no. 61553
Surge arrestor (LAN cable)	AirLancer Extender SA-LAN surge arrestor (LAN cable), item no. 61213
Documentation	LANCOM LCOS Reference Manual (DE), item no. 61700
Modem Backup	LANCOM Modem Adapter Kit, item no. 61500
Power over Ethernet Injector	LANCOM PoE Power Injector, item no. 61502 (EU) and 61503 (UK)
Power over Ethernet Switch	LANCOM ES-1108P, 8-port Fast Ethernet switch with 4 PoE ports, item no. 61450 (EU) and 61449 (UK)
Power over Ethernet Switch	LANCOM ES-2126P, 24-port Fast Ethernet PoE switch (802.3af, max. 185 W), 2 Gigabit ports, 2 SFP slots, item no. 61451 (EU) and 61453 (UK)
*) Note	The Polarization Diversity antennas require 2 cables and surge arrestors
Item numbers	
LANCOM XAP-40-2	61147
LANCOM XAP-40-2 (FCC)	61198

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