LANCOM LX-6402 Wireless Access Point Installation Guide

Contents

LANCOM SYSTEMS

LANCOM LX-6402 Wireless Access Point

Product Information

The LANCOM LX-6402 is a network device that provides robust and reliable connectivity for your network. It comes with the LCOS LX= firmware, drivers, tools, and documentation, which can be downloaded for free from the LANCOM website. The device is housed in a synthetic housing with rear connectors and is ready for wall and ceiling mounting. It measures 205 x 42 x 205mm (W x H x D) and is powered by a 12V DC external power adapter. The package includes an Ethernet cable, four dipole dual-band antennas, and a power adapter (external power adapter not included with bulk item).

Interface Overview

- 2.5G Config (Com) Reset DC 12 V
- ETH2
- ETH1 (PoE)
- USB

Documentation / Firmware

Basically, current versions of the LCOS LX firmware, drivers, tools and documentation for all LANCOM and AirLancer products are available for download free of charge from our website.
Detailed documentation for your device can be found in the download portal of the LANCOM;

- **website**: **www.lancom-systems.com/downloads** You will also find explanations of all the functions of your LANCOM device in the LCOS LX Reference
- **Manual**: **www.lancom-systems.de/docs/LCOS-LX/Refmanual/**

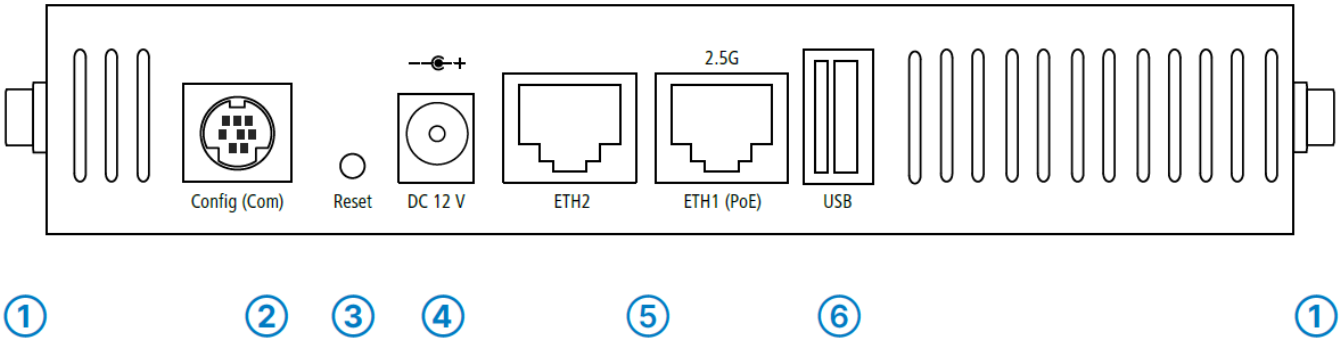
Service & Support

The LANCOM Knowledge Base with over 2,500 articles is available to you at any time via the LANCOM

- **website**: **www.lancom-systems.com/knowledgebase**
- If you have any further questions, please submit your request via our Service & Support portal: **www.lancom-systems.com/service-support**
- Online support is always free of charge at LANCOM. Our experts get back to you as soon as possible.

All information on your device

Interface overview of the LANCOM LX-6402



1. Wi-Fi antenna connection sockets
2. Serial configuration interface
3. Reset button
4. Power supply connection socket
5. ETH1 (PoE), ETH2 interfaces
6. USB interface

Technical data (excerpt)

Hardware

- **Power** supply 12 V DC, external power adapter For an overview of the power supplies compatible with your device, see www.lancom-systems.com/kb/power-supplies. PoE based on 802.3at via ETH1
- **Housing** Robust synthetic housing, rear connectors, ready for wall and ceiling mounting; measures 205 x 42 x 205 mm (W x H x D)

Package contents

- Cable Ethernet cable, 3 m
- Antennas Four dipole dual-band antennas, maximum gain: 2,3 dBi in the 2.4 GHz band, 5 dBi in the 5 GHz band.
- Power adapter External power adapter (not included with bulk item)

Initial start-up

Establishing the required connections for device configuration

- Always observe the adjacent safety instructions and notes.
- For the power supply select the description a), b) or c) applicable to the equipment of the present device
    - Power supply via external power supply unit
    - PoE power supply via PoE network device
    - PoE power supply via separate PoE injector
- Establish a power supply using the external power supply unit (if available).
- Connect a network cable to the Ethernet port marked PoE on the device and a free PoE- active network socket on your local network (e. g. on a PoE-capable switch).
- Connect a network cable to the Ethernet port marked PoE on the device and the output of the PoE injector. Then connect another network cable to the input of the PoE injector and a free NON-PoE-active network outlet of your local network.
- Connect the PoE injector to the power supply.

Always observe the documentation of the PoE injector or PoE switch!

- Use suitable cables to connect other required device interfaces to other components and, in the case of devices with Wi-Fi interfaces, connect any antennas supplied.
- Select one of the following configuration methods a) or b).
    - Configuration via the local network (recommended) Note that an active DHCP server is required in the network connected to the device.
      Connect the computer intended for configuration (e.g. notebook) either directly via Ethernet cable to one of the ETH or LAN interfaces of the device, or to a switch in the same network.
- The possibly existing interface CONFIG or COM is not suitable for configuration via the network!
    - Configuration via the serial interface of a connected computer (if available)
- You need a serial configuration cable which is connected to the possibly existing CONFIG or COM interface of the device. This socket is exclusively intended for connection to a serial interface!

Options for initial start-up of the unconfigured device

Option 1: via web browser (WEBconfig, not for serially connected devices)

- Configuration via web browser is an easy and fast variant, since no additional software is required on the computer used for configuration.
  Note: If a certificate warning appears in your browser when trying to connect to your device, there is a button

or link on the displayed browser page to connect to the device anyway (depending on the browser, usually under Advanced).

- In this procedure, the DNS server used in your network must be able to resolve the host name reported by the device via DHCP. When using a LANCOM device as a DHCP and DNS server, this is the default case.
- You can reach your device via https://lancom-XXYYZZ. Replace XXYYZZ with the last six digits of the MAC address of your device, which you can find on the enclosed document LANCOM Management Cloud or on the nameplate of the device.
- If necessary, append the domain name of your local network (e. g. .intern).
- Alternatively, for configuration via TCP/IP you need the IP address of the device in the local network (LAN) so that you can enter it in any web browser. If necessary, determine the IP address at the DHCP server or router.
- When connecting the computer to an unconfigured LANCOM device, WEBconfig automatically calls up the start page for device configuration. Here you select whether you want to configure the device via the LANCOM Management Cloud (-> Option 3, see below) or via Stand-alone configuration.
- If you select Stand-alone configuration, you will be redirected to the dashboard after setting the access data.
- On the dashboard, under Wi-Fi configuration->Add new SSID, configure an SSID and an associated password (PSK). After saving the configuration, check the accessibility of the new SSID e. g. by smartphone via the displayed QR code.
- The initial commissioning of the device is now complete.
- **Option 2:** via the Windows software LANconfig (**www.lancom-systems.com/downloads**)
- Please wait until the booting process of the device is completed before starting LAN config.
- LANCOM access points start in managed mode and are only found automatically in the local area network (LAN) with the option Extend search to managed APs.
- Open the device configuration by double-clicking on the unconfigured device in the device list.
- Confirm the security notice and first configure a device password under Management -> Admin -> Device configuration.
- Under Wireless-LAN -> WLAN-Networks -> General/Network -> Add, configure an SSID an associated password (PSK). The initial commissioning of the device is now complete.
- **Option 3:** via the LANCOM Management Cloud (LMC)
- Special requirements are necessary to configure the device via the LMC. Information on this topic can be found at **www.lancom-systems.com/lmc-access**.

General safety instructions

- Under no circumstances should the device housing be opened and the device repaired without authorization. Any device with a case that has been opened is excluded from the warranty.
- If antennas are available, they may only be installed or replaced when the device is switched off. Mounting or demounting antennas while the device is powered on may cause the destruction of the radio module.
- Mounting, installation, and commissioning of the device may only be carried out by qualified personnel.

Safety instructions and intended use

- In order to avoid harming yourself, third parties or your equipment when installing your LANCOM device, please observe the following safety instructions. Operate the device only as described in the corresponding documentation. Pay particular attention to all warnings and safety instructions. Use only those third-party

devices and components that are recommended or approved by LANCOM Systems.

- Before commissioning the device, be sure to study the corresponding Hardware Quick Reference which can be downloaded from the LANCOM website **www.lancom-systems.com/downloads**.
- Any warranty and liability claims against LANCOM Systems are excluded in the event of any use other than the intended use described below!

Environment
LANCOM devices should only be operated when the following environmental requirements are met

- Ensure that you comply with the temperature and humidity ranges specified in the Quick Reference Guide for the LANCOM device.
- Do not expose the device to direct sunlight (does not apply to outdoor devices).
- Ensure that there is adequate air circulation and do not obstruct the ventilation slots.
- Do not cover devices or stack them on top of one another
- The device must be mounted so that it is freely accessible (for example, it should be accessible without the use of technical aids such as elevating platforms (does not apply to outdoor devices)); a permanent installation (e. g. under plaster) is not permitted.
- Only outdoor equipment intended for this purpose is to be operated outdoors.

Power supply

Before start-up, the following points must be observed, as improper use can lead to personal injury and damage to property, as well as voiding the warranty:

- If available, the power plug of the device must be freely accessible.
- Operate the device only with a professionally installed power supply at a nearby and at all times freely accessible socket.
- Only use the enclosed power supply / IEC cable or the one listed in the hardware quick reference.
- A high touch current is possible for devices with metal housing and grounding screw! Before connecting the power supply, connect the grounding screw to a suitable ground potential.
- Some devices support power supply via an Ethernet cable (Power over Ethernet – PoE). Please refer to the corresponding notes in the hardware quick reference of the device.
- Never operate damaged components.
- Only switch on the device when the housing is closed.
- The device must not be installed during thunderstorms and should be disconnected from the power supply during thunderstorms.
- In case of emergency (e. g. damage, ingress of liquids or objects, for example through the ventilation slots), disconnect the power supply immediately.

Applications

- The devices may only be used in accordance with the relevant national regulations and under consideration of the legal situation applicable there.
- The devices must not be used for the actuation, control, and data transmission of machinery that, in case of malfunction or failure, may present a danger to life and limb, nor for the operation of critical infrastructures.

- The devices with their respective software are not designed, intended or certified for use in: the operation of weapons, weapons systems, nuclear facilities, mass transportation, autonomous vehicles, aircraft, life support computers or equipment (including resuscitators and surgical implants), pollution control, hazardous materials management, or other hazardous applications
- where failure of the device or software could lead to a situation in which personal injury or death could result.
- The customer is aware that the use of the devices or software in such applications is entirely at the customer‘s risk.

Regulatory Notice

- This LANCOM device is subject to governmental regulation. The user is responsible for ensuring that this device operates in accordance with local regulatory guidelines, specifically for compliance with potential channel restrictions.

Channel restrictions in Wi-Fi operation for devices with Wi-Fi interfaces

- When operating this radio equipment in EU countries the frequency range 5,150 – 5,350 MHz (Wi-Fi channels 36 – 64) as well as the frequency range 5,945 – 6,425 MHz (Wi-Fi channels 1 – 93) is limited to indoor use.

Technology	Frequency range (MHz)	Max. output power (dBm EIRP)
Wi-Fi	2,400 – 2,483.5 5,150 – 5,350 5,470 – 5,725 5,945 – 6,425	20 20 30 23
SRD / BLE / SRD / ESL (ePaper)	2,400 – 2,483.5	10
SRD / SubGHz-ESL	869.2 – 869.25	14 / 25 mW

Declarations of Conformity

- You will find all the Declarations of Conformity concerning our product portfolio under **www.lancom-systems.com/doc**. These documents contain all the tested standards and required guidelines in the area of EMC – SAFETY – RF, as well as the proof of the guidelines concerning RoHS & REACH.

Simplified Declaration of Conformity

- Hereby, LANCOM Systems GmbH | Adenauerstrasse 20/B2 | D-52146 Wuerselen, declares that this device is in compliance with Directives 2014/30/EU, 2014/35/EU, 2014/53/EU, 2011/65/EU, and Regulation (EC) No. 1907/2006. The full text of the EU Declaration of Conformity is available at the following Internet address:

www.lancom-systems.com/doc

LANCOM FCC Regulatory Notice Class A Devices

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions.

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

WARNING

- This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules.
- These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- The FCC declaration of conformity may be downloaded from www.lancom-systems.com/doc under the corresponding product section.

Documents / Resources

	LANCOM LX-6402 Wireless Access Point [pdf] Installation Guide LX-6402 Wireless Access Point, LX-6402, Wireless Access Point, Access Point

References

- Business network solutions "engineered in Germany": LANCOM Systems GmbH
- DoC - LANCOM Systems GmbH
- Downloads - LANCOM Systems GmbH
- Confluence Mobile - LANCOM Wissensdatenbank
- Confluence Mobile - LANCOM Wissensdatenbank
- lancom-systems.com/lmc-access
- Service & Support: LANCOM Systems GmbH
- LCOSLX 6.12 Reference Manual
- lancom-systems.com/lmc-access
- User Manual