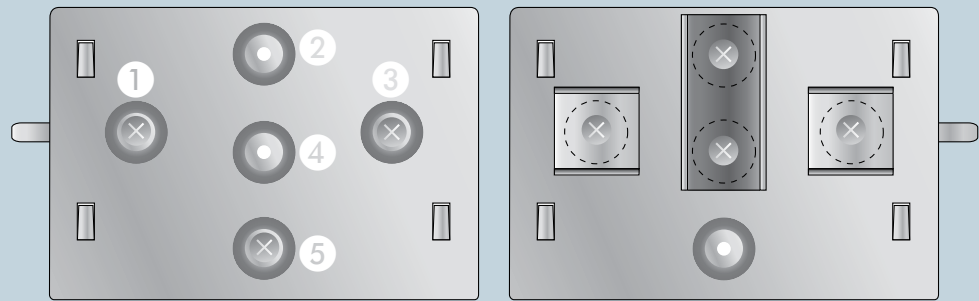


LANCOM IAP-321

Hardware Quick Reference



Wall mounting

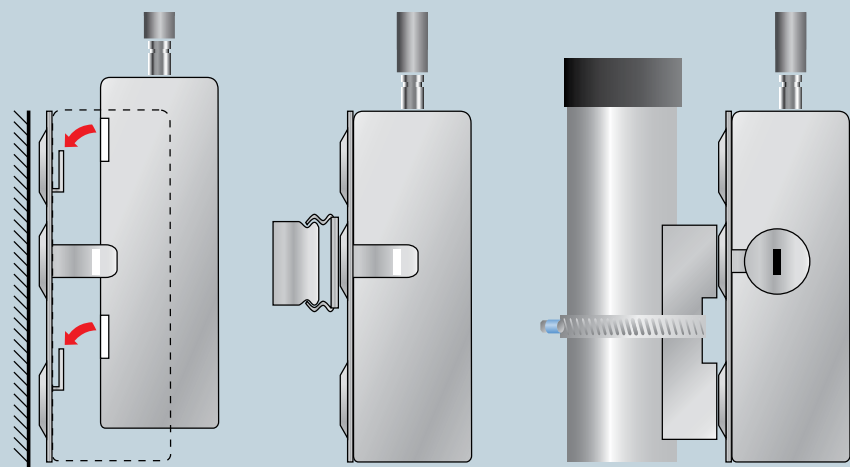
Use the supplied screws to fix the back plate to the wall using the holes 1, 5 and 3.

Top-hat rail mounting

Fix the two top-hat rail clips with the supplied screws through the holes 1 and 3. Leave the screws slightly loose at first so that you can line up the clips properly.

Mast mounting

For mast mounting, use the supplied screws to fix the clamp profile through the holes 2 and 4.



Align the four openings on the rear of the device housing with the clips on the base plate and snap-fit the device.

Top-hat rail mounting only

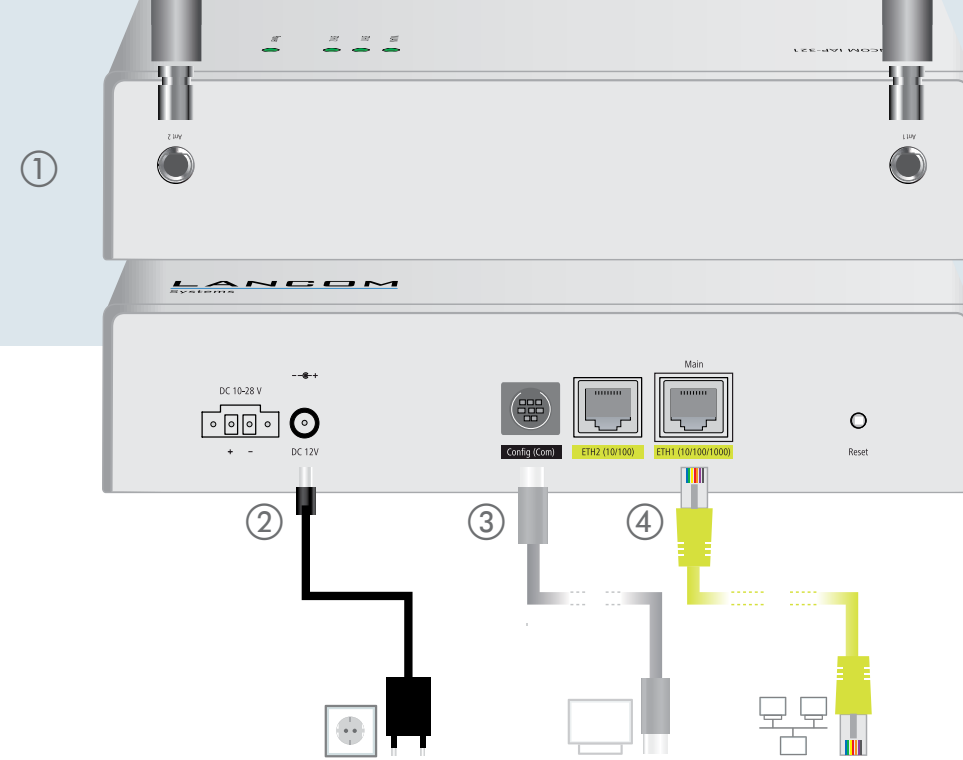
Snap the two top-hat rail clips onto the required position on the top-hat rail.

Mast mounting only

Insert the supplied worm-drive clip (or one suitable for your pole diameter) around the mounting clamp profile. Finally, adjust the worm-drive clip to fix the device in the desired position on the mast.

Optional: secure with a Kensington lock

The left side of the device features a slot for a Kensington lock. The Kensington lock securely fixes the device to the mounting plate.

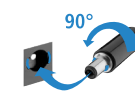


1 Optional: WLAN antennas

Screw the WLAN antennas supplied to the connectors Ant1 and Ant2. Depending on the antenna ports you use, you may have to configure the 'Antenna grouping' parameter.

2 Power

When connecting the cable to the device, turn the bayonet connector 90° clockwise until it clicks into place.



Use only the supplied power adapter. Alternatively, connect the two free pins of the Combicon connector with a voltage source in the range 10 - 28 V DC.

3 Optional: Serial configuration cable:

Connect the device to a PC with a configuration cable (available as accessory).

4 Optional: LAN

Use the cable with the green-colored connectors to connect one of the interfaces ETH1 or ETH2 to your PC or a LAN switch. Alternatively, you can connect one of the ETH interfaces to the PoE Injector's 'Power Out' connector.

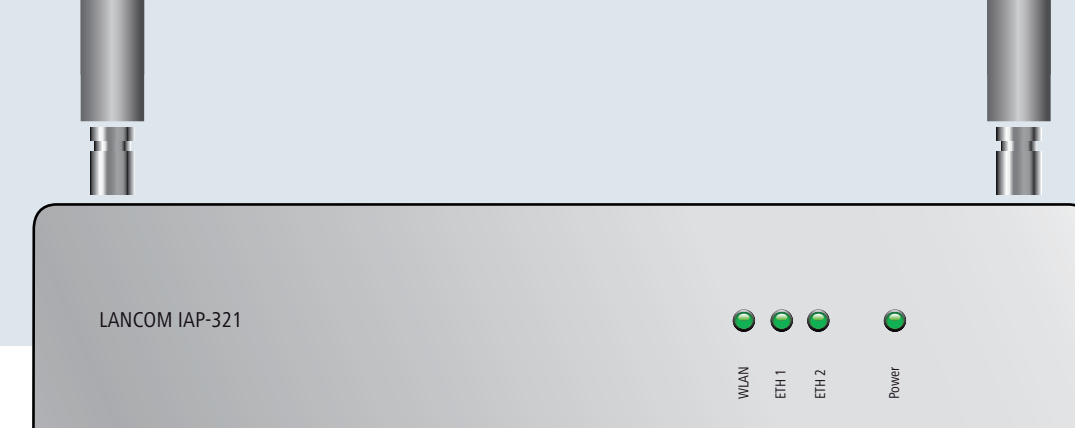


If you operate separately purchased antennas, please ensure that you do not exceed the maximum allowed transmission power for your system. The system operator is responsible for adhering to the threshold values. For information about calculating the correct antenna setup, please refer to www.lancom.eu.



Antennas are only to be attached or changed when the device is switched off. Mounting or demounting antennas with the device switched on could destroy the WLAN module!

MOUNTING AND CONNECTING THE DEVICE



1 WLAN

No	No WLAN network defined or WLAN module deactivated. The WLAN module is not transmitting beacons.
Green	At least one WLAN network is defined and WLAN module activated. The WLAN module is transmitting beacons.
Green inverse flashing	Number of flashes = number of connected WLAN stations and P2P wireless connections, followed by a pause (default). Alternatively the frequency of the flashing can indicate signal strength over the defined P2P link or the signal strength between the access point and the device operating in client mode.
Blinking green	DFS scanning or other scan procedure.

2 ETH 1 and ETH 2

No	No networking device attached
Green on (permanently)	Connection to network device operational, no data traffic
Flickering green	Data traffic

3 Power

No	Device switched off
Green on (permanently)	Device operational
Blinking green	Configuration password not set. Without a configuration password, the configuration data in the device is unprotected.
Blinking red	Charge or time limit reached

License information for the device firmware (LCOS) is available in the file LCOS-Licenses.txt on the data medium supplied.

Hardware		
Power supply	12 V DC, external power adapter (230V) with bayonet connector to secure against disconnection 24 V DC, input voltage range 10 - 28 V Via Power-over-Ethernet as per IEEE 802.3af	Please note that depending on the intended use your power supply has to support the extended temperature range.
Power consumption	Max. power consumption: 6.8 W @ 12 V, 8.6 W @ 24 V	
Environment	Temperature range -20 – +50 °C; humidity 0-95%; non-condensing	
Housing	Robust metal housing, IP 50 protection class, for wall, mast and top-hat rail mounting, 21 cm x 15.2 cm x 4.5 cm (length/width/depth), weighs approx. 1.1 kg (without mounting materials)	

WLAN		
Frequency band	2.4 GHz or 5 GHz, 2400-2483.5 MHz (ISM) or 5150-5825 MHz (restrictions vary between countries)	
Antenna gain	Up to 17 dBi at 5 GHz on the integrated dual polarization antenna	
Transmission rates, 802.11b/g	54 Mbps as per 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	
Transmission rates, 802.11a/h	54 Mbps as per IEEE 802.11a/h (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, automatic rate selection), full compatibility with TPC (adjustable power output) and DFS (automatic channel selection, radar detection) as per ETSI EN 301 893 V. 1.5.1., EN 302 502	
Transmission rates, 802.11n	300 Mbps as per 802.11n with MSC15 (fallback to 6.5 Mbps with MSC0). Settings for 802.11 a/g/n compatibility mode or pure g, pure a, pure n, 802.11n/g, 802.11n/a	
Output power at the radio module, 5 GHz	802.11a/h: 17 dBm @ 6 to 24 Mbps, 15 dBm @ 36 Mbps, 13 dBm @ 54 Mbps, 802.11n: 17 dBm @ 6.5/13/130 Mbps (MCS0/8), 13 dBm @ 65/130/300 Mbps (MCS7/15)	
Minimum transmission power	Transmission-power reduction in software by 1dB steps to min. 0.5 dBm	
Reception sensitivity 2.4 GHz	802.11b: -89 dBm @ 11 Mbps, -94 dBm @ 1 Mbps 802.11g: -93 dBm @ 6 Mbps, -79 dBm @ 54 Mbps 802.11n: -93 dBm @ 6.5 Mbps (MCS0/8), -75 dBm @ 65 Mbps (MCS7/15)	
Reception sensitivity 5 GHz	802.11a/h: -93 dBm @ 6 Mbps, -75 dBm @ 54 Mbps 802.11n: -93 dBm @ 6.5 Mbps (MCS0/8), -71 dBm @ 65 Mbps (MCS7/15)	
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 (channels available vary according to country regulations; DFS for automatic dynamic channel selection required)	

Interfaces		
1st LAN port	10/100/1000 Mbps auto-sensing, PoE as per IEEE 802.3af	
2nd LAN port	10/100 Mbps auto-sensing, PoE as per IEEE 802.3af	
External antenna connectors	Two reverse SMA connectors for external LANCOM AirLancer Extender antennas or for antennas from other vendors.	
Serial interface	Serial configuration interface / COM port (10-pin connector): 19,200 - 115,000 baud	

WLAN protocols		
Ethernet	PPPoE, Multi-PPPoE, ML-PPP, PPTP (PAC or PNS) and plain Ethernet (with or without DHCP), RIP-1, RIP-2, VLAN, IP	

Declaration of conformity		
CE	EN 60950, EN 301893 V 1.5.1 is currently in preparation	
UL	UL-2043 is currently in preparation	
Notifications	Certifications notified in Germany, Belgium, Netherlands, Luxembourg, Austria, Spain, Switzerland, UK, Italy, Portugal, Czech Republic, Denmark, France	

Package content		
Manual	Hardware Quick Reference (DE/EN), Installation Guide (DE/EN/FR/ES/IT/PT/NL)	
CD/DVD	CD/DVD with firmware, management software (LANconfig, LANmonitor, LANCAPI) and documentation	
Cable	Ethernet cable, 3m (not included in bulk pack)	
Combicon connector	For connection to a power supply ranging from 10 - 28 V DC.	
Antennas	Two 3-dBi dipole dual-band antennas	
Power adapter	External power supply adapter (230V), NEST 12 V/1.5 A DC/5, barrel connector 2.1/5.5 mm bayonet, temperature range -5 to 45°C, LANCOM item no. 110829	