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LANCOM OAP-382

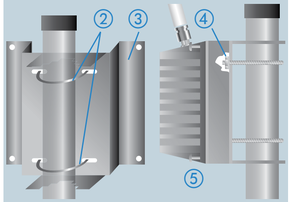
Quick Reference Guide

LANCOM Systems

Mounting

Wall mounting

Using suitable screws ①, mount your device in the required position on the wall. Screws for wall mounting are not supplied with the device.



Pole mounting

Place the two U-bolts ② around the pole (max. diam. 6cm) and use the supplied nuts and washers ③ to fix the mounting plate ④. Two mounting clamps for different post diameters are included. Mounting is completed by attacking the device to the mounting plate with the two screws ⑤.

Observe the mounting instructions in the accompanying LANCOM Outdoor Wireless Guide. Installing access points and/or external antennas without adequate lightning protection can lead to serious damage to the devices and/or to the related network infrastructure.

④ Grounding
Attach the green grounding wire to the housing and attach the other end to a suitable ground.

⑤ WLAN antennas
Screw the supplied WLAN antennas onto the connectors Ant 1 and Ant 2 for WLAN 1 and/or WLAN 2. Depending on how the antennas are to be used, the 'Antenna Grouping' may need to be configured in order to provide the desired MIMO behavior.

⑥ Optional: Reset
To restore the device to its default configuration, press the reset button on the powered-up device long enough until the power LED lights up **continuously** in green. This process takes several seconds.

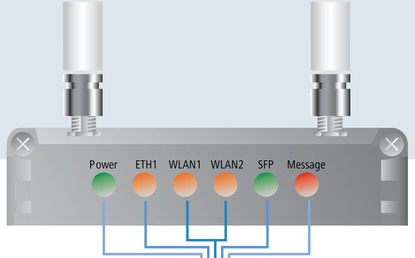
⑦ LAN and Power
The LAN connector also supplies the power to the LANCOM OAP-382. Plug in the water-proof power cable to the LAN port on the underside of the device and carefully tighten the threaded connector. Connect the other end of the power cable to the 'Power Out' connector on the supplied PoE Injector.

⑧ Power
As an alternative to PoE: Connect the power cable to a 48V source. LANCOM can supply a suitable cable from its range of accessories.

⑨ Fiber-optic cable
Insert an i-temp-capable SFP module into the socket. Select a cable that is suitable for the SFP module with appropriate connectors and follow the instructions for the SFP module to connect it up. The SFP module and connecting cable are not included, but they can be purchased as accessories.

The use of a LAN-side surge-arrestor adapter such as the AirLancer Extender SA-LAN is imperative for outdoor installations. It is available as an accessory.
If the LANCOM OAP-382 is switched on at very low temperatures, the device requires a warm-up period of up to 40 min. This is not an error, but serves to protect the electronics.
The housing of the device may become warm during operation.
If the device is operated with outside temperatures exceeding 60 °C, it should be mounted with protection against contact.

MOUNTING AND CONNECTING THE DEVICE



① Power	
Off	Device switched off
Green, on (permanently)	Device operational

② ETH 1	
Off	No connection (no link)
Yellow, on (permanently)	Network connection ready (link)
Yellow, flickering	Data transmission

③ WLAN 1 and WLAN 2	
Off	No WLAN network defined or WLAN module deactivated. The WLAN module is not transmitting beacons.
Yellow	At least one WLAN network is defined and WLAN module activated. The WLAN module is transmitting beacons.
Yellow, 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.
Yellow, blinking	DFS scanning or other scan procedure.

⑤ Message	
Off	Device is operating normally
Red, blinking (slow)	Time or charge limit reached/error message occurred
Red, blinking (fast)	Configuration password not set. Without a configuration password, the configuration data in the device is unprotected.
Red, blinking	Hardware error (defective WLAN module)

④ SFP	
Off	SFP-1 deactivated in the configuration or SFP modules exist, no connection to network device
Green, on (permanently)	SFP module installed, connected to the network; no data traffic
Green, flashing	Data transmission

TECHNICAL DETAILS

Hardware	
Power supply	Via Power over Ethernet: Max. distance between access point and Power over Ethernet injector must not exceed 100m. 1 x Gigabit High Power PoE Injector is included. PoE operates with the supplied PoE adapter only. Alternatively: 1 x 48 V DC via optional 48 V cable (for additional accessories see www.lancom.eu)
Environment	-30°C to +65°C at 95% max. humidity (non condensing)
Housing	235 mm x 210 mm x 80 mm (W x H x D); 3.4 kg, robust metal housing, IP66 protection rating, ready for wall and pole mounting, 6 LEDs for status display
LED displays	6 LEDs for Power, Ethernet, WLAN, SFP module and Message
WLAN	
Frequency band	2.4 GHz and 5 GHz. 2400-2483.5 MHz (ISM) and 5150-5825 MHz (restrictions vary between countries)
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 operation
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, or pure n operation, 802.11n/g, 802.11n/a
Range (outdoor / P2P)	Several kilometers in the 5-GHz band. The Antenna Distance Calculator is available for free from www.lancom.eu.
Output power at the radio module, 2.4 GHz	802.11b: +19 dBm @ 1 and 2 Mbps, +19 dBm @ 5.5 and 11 Mbps 802.11g: +18 dBm @ 6 to 36 Mbps, +17 dBm @ 48 Mbps, +16 dBm @ 54 Mbps; 802.11n: +19 dBm @ 6.5 / 13 Mbps (MCS0/8, 20 MHz), +10 dBm @ 65/130 Mbps (MCS7/15, 20 MHz), +17 dBm @ 15/30 Mbps (MCS0/8, 40 MHz), +10 dBm @ 150/300 Mbps (MCS7/15, 40 MHz)
Output power at the radio module, 5 GHz	802.11a/h: +18 dBm @ 6 to 24 Mbps, +17 dBm @ 36 Mbps, +16 dBm @ 48 Mbps, +15 dBm @ 54 Mbps; 802.11n: +18 dBm @ 6.5 / 13 Mbps (MCS0/8, 20 MHz), +10 dBm @ 65/130 Mbps (MCS7/15, 20 MHz), +17 dBm @ 15/30 Mbps (MCS0/8, 40 MHz), +10 dBm @ 150/300 Mbps (MCS7/15, 40 MHz)
Minimum transmission power	Transmission-power reduction in software by 1dB steps to min. 0.5 dBm
Reception sensitivity 2.4 GHz	802.11b: -91 dBm @ 11 Mbps, -96 dBm @ 1 Mbps; 802.11g: -96 dBm @ 6 Mbps, -83 dBm @ 54 Mbps; 802.11n: -96 dBm @ 6.5 Mbps (MCS0, 20 MHz), -79 dBm @ 65 Mbps (MCS7, 20 MHz); -95 dBm @ 13 Mbps (MCS8, 20 MHz), -75 dBm @ 130 Mbps (MCS15, 20 MHz); -90 dBm @ 15 Mbps (MCS0, 40 MHz), -75 dBm @ 150 Mbps (MCS7, 40 MHz); -90 dBm @ 30 Mbps (MCS8, 40 MHz), -71 dBm @ 300 Mbps (MCS15, 40 MHz)
Reception sensitivity 5 GHz	802.11a/h: -95 dBm @ 6 Mbps, -82 dBm @ 54 Mbps; 802.11n: -95 dBm @ 6.5 Mbps (MCS0, 20 MHz), -77 dBm @ 65 Mbps (MCS7, 20 MHz); -94 dBm @ 13 Mbps (MCS8, 20 MHz), -74 dBm @ 130 Mbps (MCS15, 20 MHz); -91 dBm @ 15 Mbps (MCS0, 40 MHz), -74 dBm @ 150 Mbps (MCS7, 40 MHz); -91 dBm @ 30 Mbps (MCS8, 40 MHz), -70 dBm @ 300 Mbps (MCS15, 40 MHz)
Interfaces	
ETH1	1 Gigabit Ethernet port, 10/100/1000 Mbps, high-power PoE (56V) with the supplied PoE injector only
SFP	Harting connector (HAN-3A SFP) small form-factor pluggable Gigabit Ethernet transceivers; copper SFP modules not supported
External antenna connectors	Four N 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 www.lancom.eu
Declaration of conformity	
CE	EN 301 489-1, EN 301 489-17, EN 60950-1
2.4 GHz	ETS 300 328
5 GHz	EN 301 893 Version 1.5.1, EN 302 502 (BFWA)
Notifications	Certifications notified in Germany, Belgium, Netherlands, Luxembourg, Austria, Spain, Switzerland, UK, Italy, Portugal, Czech Republic, Denmark, France
Package content	
LANCOM OAP-382	Device supplied with mounting materials, grounding wire, and the following accessories. Please note: The Provider Package includes only the device, mounting materials, grounding wire, and antenna adapters.
Manual	Quick Reference Guide (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	Water-resistant, UV-resistant Ethernet PoE cable with water-resistant screw connector, 15m
Cable	Four AirLancer NP-NP 25 cm adapters for connecting outdoor antennas from the LANCOM AirLancer Extender product range, including sealing tape to protect against water penetration
Antennas	Four outdoor dual-band rod antennas (2.4 GHz, 2.5 dBi; 5 GHz, 5 dBi)
Power adapter	Via Power over Ethernet, 1 x Gigabit High Power (50W/56V) PoE Injector included