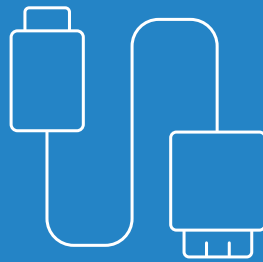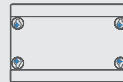# LANCOM 1781EW+
Quick Reference Guide

Please observe the following when setting up the device

> When setting up on the desktop, please attach the adhesive rubber footpads
> Do not rest any objects on top of the device

> Keep side ventilation slots free
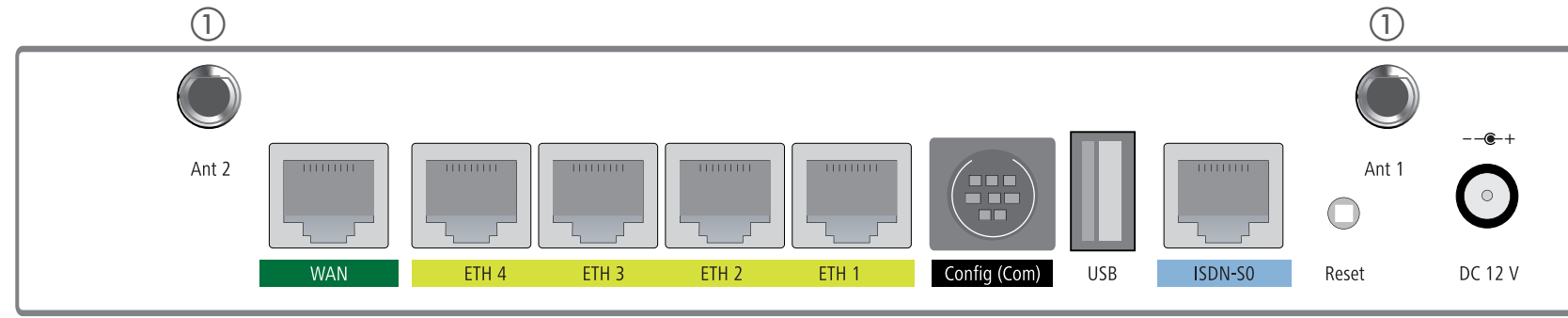> In case of wall mounting, use the drilling template as supplied

> Rack installation with the optional LANCOM Rack Mount (not supplied)

Cloud-ready

LANCOM
Systems

Ant 2

| WAN | ETH 4 | ETH 3 | ETH 2 | ETH 1 | Config (Com) | USB | ISDN-S0 | Reset | DC 12 V |

Ant 1

① Wi-Fi antenna connectors
Connect the supplied Wi-Fi antennas to the Ant 1 and Ant 2 connectors. The desired MIMO behavior may have to be configured under > Physical WLAN settings > Radio > Antenna grouping.

② WAN interface
Connect the WAN interface to your WAN modem using the included Ethernet cable with dark green connectors.

③ Ethernet interfaces
Connect one of the interfaces ETH 1 to ETH 4 to your PC or a LAN switch using the cable with kiwi-colored plugs.

④ Serial configuration inteface
For configuration, connect the device and a PC with a serial configuration cable (available as an accessory).

⑤ USB interface
Connect a USB storage medium or a USB printer to the USB interface.

⑥ ISDN interface
Connect the ISDN interface to the NTBA using the ISDN cable with light blue plugs if you want to use ISDN additionally.
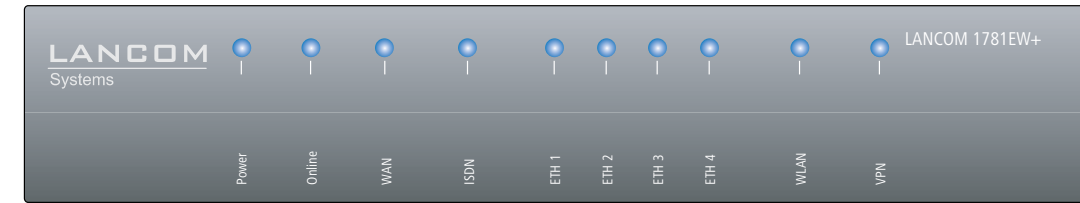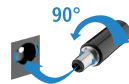
⑦ Reset button
Press and hold for up to 5 seconds:
Device restart

Hold down until all LEDs light up for the first time:
Reset the configuration and restart the device

⑧ Power
Turn the bayonet connector of the cable 90° clockwise when plugging it into the device until it locks into place.
Only use the supplied power supply unit!

> When working with separately purchased antennas, please ensure you do not exceed the maximum permissible transmission power. The system operator is responsible for adhering to the threshold values. Antennas are only to be attached or changed when the device is switched off. Mounting or dismounting antennas while the device is switched on may destroy the 4G or Wi-Fi modules!

Before initial startup, please make sure to take notice of the information regarding the intended use in the enclosed installation guide!
Operate the device only with a professionally installed power supply at a nearby power socket that is freely accessible at all times.

MOUNTING AND CONNECTING THE DEVICE

LANCOM Systems   LANCOM 1781EW+

Power Online WAN ISDN ETH 1 ETH 2 ETH 3 ETH 4 WLAN VPN

① ② ③ ④   ⑤   ⑥ ⑦

① Power

Off	Device switched off
Green, permanently	Device ready for operation
Green / orange, blinking	No configuration password set. Without configuration password, the configuration data of the device is unprotected.
Red, blinking	Time or charge limit reached
1x green inverse blinking*	Connection to the LMC active, pairing OK, device not claimed
2x green inverse blinking*	Pairing error, resp. LMC activation code not available
3x green inverse blinking*	LMC not accessible, resp. communication error

② Online

Off	WAN connection not active
Green, blinking	WAN connection is established (e.g. PPP negotiation)
Green, permanently	WAN connection active
Red, permanently	WAN connection error

③ WAN

Off	Interface switched off
Green, permanently	WAN connection established
Green, flickering	WAN data transmission
Red / orange, blinking	Hardware error ext. modem

④ ISDN

Off	Interface switched off
Green, permanently	D channel active
Orange, permanently	B channel active
Green, flickering	ISDN data transmission
Red, flickering	ISDN transmission error
Red / orange, blinking	ISDN hardware error

⑤ ETH

Off	No network device connected
Green, permanently	Connection to network device operational, no data traffic
Green, flickering	Data transmission

⑥ WLAN

Off	No Wi-Fi network defined or Wi-Fi module disabled. No beacons are sent from the Wi-Fi module.
Green	At least one Wi-Fi network defined and Wi-Fi module activated. Beacons are sent from the Wi-Fi module.
Green, inverse flashing	The number of flashes between two pauses indicates the number of connected Wi-Fi stations. In the case of point-to-point connections, the number can also stand for the signal strength.
Green, blinking	DFS Scanning or other Scanning operation.
Red, blinking	Hardware error in Wi-Fi module

⑦ VPN

Off	No VPN connection
Green, permanently	VPN connection active
GReen, flashing	VPN connection setup

*) The additional power LED statuses are displayed in 5-seconds rotation if the device is configured to be managed by the LANCOM Management Cloud.

TECHNICAL DATA

Hardware

Power supply	12 V DC, external power adapter (230 V) with bayonet connector to secure against disconnection
Power consumption	Max. ca. 12.5 W
Environment	Temperature range 5–40 °C; humidity 0–95 %; non-condensing
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; measures 210 × 45 × 140 mm (W × H × D)
Number of fans	None; fanless design, no rotating parts, high MTBF

Wireless LAN

Frequency band	2400–2483.5 MHz (ISM) or 5150–5725 MHz (restrictions vary between countries)
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

WAN	10 / 100 / 1000 Mbps Gigabit Ethernet
ETH	4 individual ports, 10 / 100 / 1000 Mbps Gigabit Ethernet, by default set to switch mode. Up to 3 ports can be operated as additional WAN ports. Ethernet ports can be electrically disabled in the LCOS configuration. The ports support the energy-efficient features as per IEEE 802.3az.
USB	USB 2.0 Hi-Speed host port for connecting USB printers (USB print server), serial devices (COM-port servers), USB data media (FAT file system), or supported UMTS USB modems
ISDN	ISDN-S₀ bus
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 the internal COM-port server.
Ant 1, Ant 2	Two reverse SMA connectors for the supplied dipole antennas, 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.

WAN protocols

Ethernet	PPPoE; Multi-PPPoE; ML-PPP; PPTP (PAC or PNS) and IPoE (with or without DHCP); RIP-1; RIP-2; VLAN; IP; IPv6 over PPP (IPv6 and IPv4/IPv6 dual stack session); IPoE (auto-configuration, DHCPv6 or static); tunnelling protocols (IPv4/IPv6) 6to4, 6in4, 6rd (static and via DHCP)
ISDN	1TR6, DSS1 (Euro- ISDN), PPP, X75, HDLC, ML-PPP, V.110/GSM/HSCSD

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, 2014/53/EU, 2014/35/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

Package content

Manual	Quick Reference Guide (DE/EN), Installation Guide (DE/EN)
CD/DVD	Management software (LANconfig, LANmonitor) and documentation
Cable	2 Ethernet cables, 3 m (LAN: kiwi-colored connectors; WAN: green connectors), ISDN cable, 3 m (light-blue connectors)
Antennas	Two external 3 dBi dipole dualband antennas, one internal 3 dBi dipole dualband antenna
Power adapter	External power adapter (230 V) 12 V/1.5 A DC/S; coaxial power connector 2.1/5.5 mm bayonet; LANCOM item no. 110723 or 111301 (EU, 230 V); LANCOM item no. 110829 or 111302 (UK, 230 V)