



Please observe the following when setting up the device

- For devices to be operated on the desktop, please attach the adhesive rubber footpads
- Do not rest any objects on top of the device



- Keep the ventilation slots on the side of the device clear of obstruction
- In case of wall mounting, use the drilling template as supplied

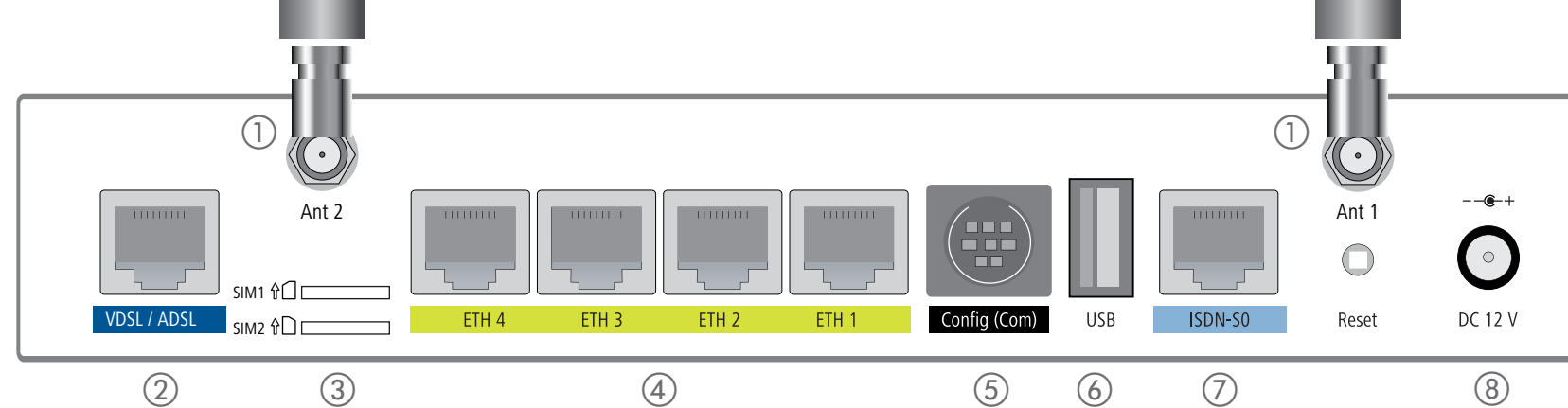


- Rack installation with the optional LANCOM Rack Mount (not supplied)



LANCOM
Systems

LANCOM 1781VA-4G Quick Reference Guide



1 LTE / 4G antennas
Screw the two supplied cellular antennas onto the connectors Ant 1 and Ant 2.



2 VDSL / ADSL interface
Use the supplied DSL cable for the IP-based line to connect the VDSL/ADSL interface and the provider's telephone socket. (For more information, please contact your Internet service provider.)



*For operation with over POTS devices please use the DSL cable with the dark blue plugs.

3 Optional: SIM card
Slide the SIM card into slot SIM1 or SIM2 using the marker to ensure that the card is the right way round. Ensure that the SIM card clicks into place on insertion. To remove the card from the device again, press the card lightly into the device. Let go to release the SIM card from the slot.



4 Ethernet interfaces
Use the cable with the kiwi-colored connectors to connect one of the interfaces ETH 1 to ETH 4 to your PC or a LAN switch.



5 Serial interface
You can connect the device to a PC with a configuration cable (available separately).



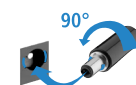
6 USB interface
Connect a USB storage device or a USB printer to the USB interface.



7 ISDN interface
Use the ISDN cable with the light-blue connectors to connect the ISDN interface to the NTBA.



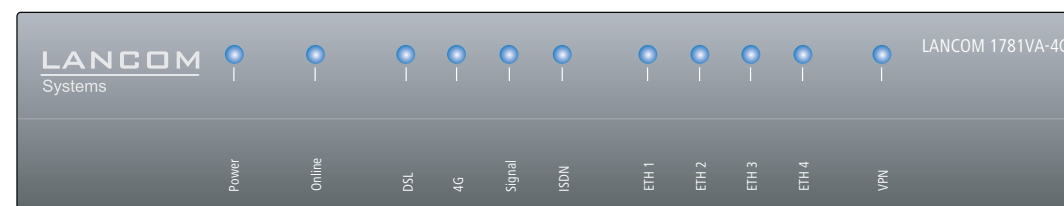
8 Power
When connecting the cable to the device, turn the bayonet connector 90° clockwise until it clicks into place. Use only the supplied power adapter.



! 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 demounting antennas with the device switched on may cause the destruction of the WLAN module!
US version: Antennas not part of the delivery content are a strict violation of FCC rules and must not be used.

! The SIM card is only to be inserted or removed when the device is switched off. Inserting or removing the SIM card with the device switched on may cause the destruction of the 4G module!

SETTING UP AND CONNECTING THE DEVICE



1 Power

Off	Device switched off
Green, permanently*	Device operational, resp. device paired / claimed and LANCOM Management Cloud (LMC) accessible
Green / orange, blinking	Configuration password not set. Without a configuration password, the configuration data in the device is unprotected.
Red, blinking	Time or charge limit on online connections has been reached

2 Online

Off	WAN connection not active
Green on	WAN connection active
Red on	Error establishing the WAN connection

3 DSL

Off	DSL interface not active
Green, permanently	DSL connection operational
Green, flickering	DSL data transmission
Red, flickering	DSL transmission error
Red / orange, blinking	DSL hardware error

4 4G

Off	Cellular interface disabled
Green, permanently	Connection to cellular network active
Green, flickering	Cellular data transmission
Orange, permanently	Logon to cellular network successful
Orange, blinking	Logging on to cellular network
Red, permanently	Hardware error/module unavailable
Red / green, blinking	SIM card error (PIN)
Red / orange, blinking	Uploading module firmware

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

5 Signal

Off	No cellular reception
Green, permanently	Good signal strength, greater than or equal to -70 dB
Orange, permanently	Medium signal strength, field strength -86 – -71 dB
Orange, blinking	Low signal strength, field strength less than -87 dB

6 ISDN

Off	interface deactivated
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

7 ETH

Off	No networking device attached
Green, permanently	Connection to network device operational, no data traffic
Green, flickering	Data traffic

8 VPN

Off	VPN connection inactive
Green, permanently	VPN connection active
Green, flashing	Establishing VPN connections

Hardware	
Power supply	12 V DC, external power adapter (230 V) with bayonet connector to secure against disconnection
Power consumption	Max. ca. 18 W
Environment	Temperature range 0–35 °C; humidity 0–95 %, non-condensing
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; measures 210 x 45 x 140 mm (W x H x D)
Number of fans	One silent fan
Interfaces	
LANCOM 1781VA-4G over ISDN	LANCOM 1781VA-4G over POTS
WAN: VDSL2	<ul style="list-style-type: none"> > VDSL2 as per ITU G.993.2, profiles 8a, 8b, 8c, 8d, 12a, 12b, 17a > VDSL2 Vectoring as per ITU G.993.5 > Compliant to VDSL2 from Deutsche Telekom > Compliant to U-R2 connections from Deutsche Telekom (1TR112) > ADSL2+ over ISDN as per ITU G.992.5 Annex B/J with DPBO, ITU G.992.3 and ITU G.992.1 (EU) > Supports just one virtual connection at a time in ATM (VPI-VCI pair) > Automatic detection of Deutsche Telekom VDSL connections with VLAN-ID 7
ETH	<ul style="list-style-type: none"> > DSL2 as per ITU G.993.2, profiles 8a, 8b, 8c, 8d, 12a, 12b, 17a > VDSL2 Vectoring as per ITU G.993.5 > ADSL2+ over POTS as per ITU G.992.5 Annex A/M with DPBO, ITU G.992.3 and ITU G.992.1 (UK / EU) > Supports just one virtual connection at a time in ATM (VPI-VCI pair)
USB	4 individual 10 / 100 / 1000 Mbps Gigabit Ethernet ports in switch-mode by default; up to three can be configured as additional WAN ports. Ethernet ports can be electrically disabled within LCOS configuration.
ISDN	USB 2.0 Hi-Speed host port for connecting USB printers (USB print server), serial devices (COM port servers), or USB data media (FAT file system)
Serial interface	ISDN S ₀ bus
4G: Ant 1, Ant 2	Serial configuration interface / COM port (8-pin Mini-DIN): 9,600–115,000
	Two SMA connectors for the supplied dipole rod antennas (LTE, UMTS), compatible LANCOM AirLancer antennas for 4G or 3G, or from other manufacturers. Please respect the restrictions which apply in your country when setting up an antenna system (in particular the antenna gain and transmission power).
WAN protocols	
VDSL, ADSL, Ethernet	PPPoE, PPPoA, IPoA, Multi-PPPoE, ML-PPP, PPTP (PAC or PNS) and IPoE (with or without DHCP), RIP-1, RIP-2, VLAN, GRE, L2TPv2 (LAC or LNS), IPv6 over PPP (IPv6 and IPv4/IPv6 dual stack session), IP(v6)oE (autoconfiguration, DHCPv6 or static)
ISDN	1TR6, DSS1 (Euro ISDN), PPP, X75, HDLC, ML-PPP, V.110/GSM/HSCSD
Data transmission in cellular networks	
Supported standards	LTE-, UMTS-, HSPA-, EDGE- and GPRS support (Transmission mode automatic or fixed)
LTE	800 / 900 / 1800 / 2100 / 2600 MHz (automatic or fixed)
UMTS/HSPA/HSPA+	900 / 2100 MHz
EDGE/GPRS	850 / 900 / 1800 / 1900 MHz
Supported mobile radio bands (3G / 4G)	Band 1 (2100 MHz), Band 2 (1900 MHz), Band 3 (1800 MHz), Band 4 (2100 MHz), Band 5 (800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 12 (700 MHz), Band 13 (700 MHz), Band 20 (800 MHz), Band 25 (1900 MHz), Band 26 (800 MHz), Band 29 (700 MHz), Band 30 (2300 MHz), Band 41 (2500 MHz)
Maximum transmission power	+24 dBm
Declaration of Conformity	
Hereby, LANCOM Systems declares that this radio equipment is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.lancom-systems.com/ce/	
Package content	
Documentation	Quick Reference Guide (DE/EN), Installation Guide (DE/EN)
Cable	1 Ethernet cable, 3 m (kiwi-colored connectors), for ISDN: 1 DSL cable for an IP-based line, 4.25m, 1 ISDN cable, 3 m (light-blue connectors), for over POTS: 1 DSL cable, 3 m (dark-blue connectors)
Antennas	Two LTE / 4G antennas for LTE / UMTS
Power adapter	External power adapter (230 V), NEST 12 V / 1.5 A DC/5, coaxial power connector 2.1 / 5.5 mm bayonet, LANCOM item no. 111301 (EU, 230 V); LANCOM item no. 111302 (UK, 230 V)

This product contains separate open-source software components which are subject to their own licenses, in particular the General Public License (GPL). The license information for the device firmware (LCOS) is available on the device's WEBconfig interface under "Extras > License information". If the respective license demands, the source files for the corresponding software components will be made available on a download server upon request.