

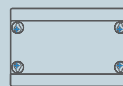


Please observe the following when setting up the device

- > 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



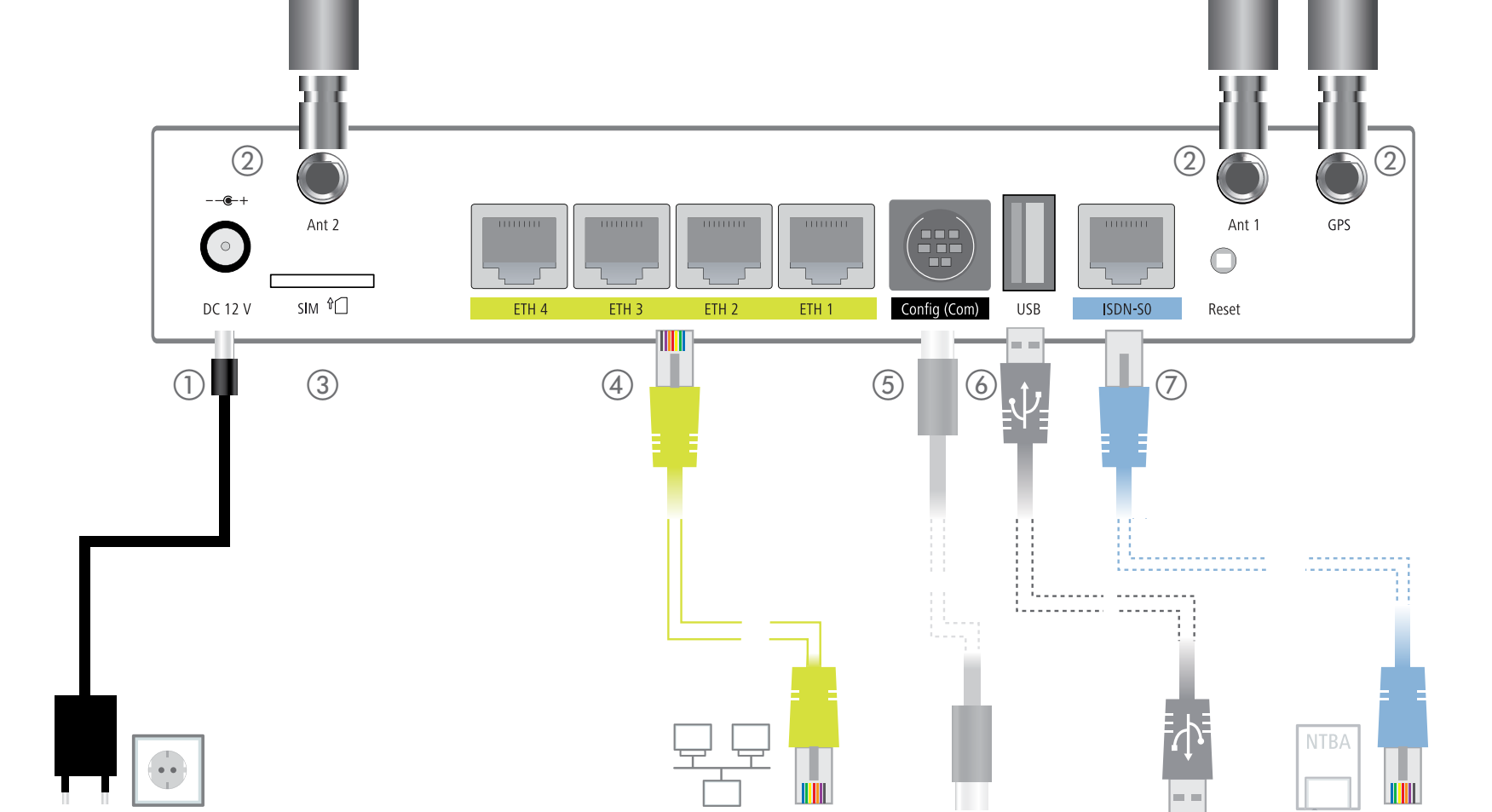
- > Rack installation with the optional LANCOM Rack Mount (not supplied)



LANCOM 1781-4G Quick Reference Guide



LANCOM
Systems

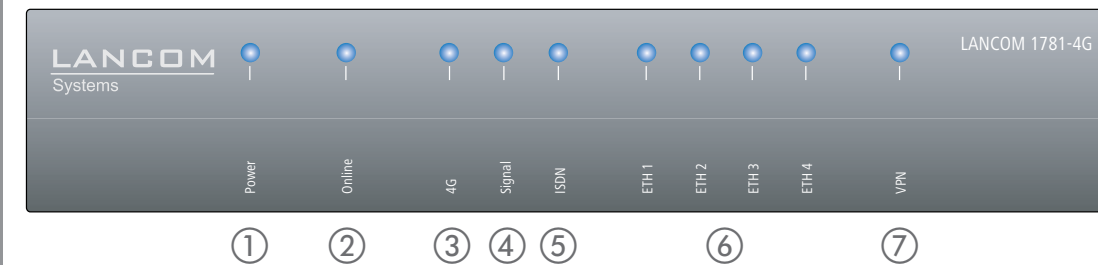


- Power**
After connecting the cable to the device, turn the bayonet connector 90° clockwise until it clicks into place.
- LTE- / 4G antennas or optional: GPS antenna**
Screw the two supplied cellular antennas onto the connectors Ant 1 and Ant 2. Alternatively screw the freely available GPS antenna onto the connector GPS. (see included voucher).
- SIM card**
Slide the SIM card into the slot 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, press the card slightly into the device. Let go to release the SIM card from the slot.
- Ethernet interface**
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.
- Serial interface**
You can connect the device to a PC with a configuration cable (available separately).
- USB interface**
You can use the USB interface to connect a USB printer or a USB flash drive for device configuration.
- ISDN interface**
Use the ISDN cable with the light-blue connectors to connect the ISDN interface to the NTBA if you wish to use ISDN.

⚠ Antennas are only to be attached or changed when the device is switched off. Mounting or demounting antennas while the device switched on may cause the destruction of the 4G module!

⚠ The SIM may only be inserted or removed with the device switched off. Inserting or removing the SIM card while the device is switched on could destroy the 4G module!

MOUNTING 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	Charge or time 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 inactive
Green, permanently	WAN connection active
Red, permanently	WAN connection error
③ 4G	
Off	Cellular interface disabled
Red / orange, blinking	Uploading module firmware
Red / green, blinking	SIM card error (PIN)
Orange, blinking	Logging on to cellular network
Orange, permanently	Logon to cellular network successful
Green, permanently	Connection to cellular network active
Green, flickering	Cellular data transmission
Red, permanently	Hardware error / module unavailable

④ Signal	
Off	No cellular reception
Orange, blinking	Low signal strength, field strength less than -87 dB
Orange, permanently	Medium signal strength, field strength -86 – -71 dB
Green, permanently	Good signal strength, greater than or equal to -70 dB
⑤ 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
⑥ ETH	
Off	No networking device attached
Green, permanently	Connection to network device operational, no data traffic
Green, flickering	Data transmission
⑦ VPN	
Off	No VPN connection active
Green, permanently	VPN connection active
Green, blinking	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. 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 x 45 x 140 mm (W x H x D)
Number of fans	None; fanless design, no rotating parts, high MTBF
Data transmission in cellular networks	
Supported standards:	LTE, HSPA+, HSxPA, UMTS, EDGE, GPRS
LTE bands	Band 1 (2100 MHz), band 3 (1800 MHz), band 7 (2600 MHz), band 8 (900 MHz), band 20 (DD800 MHz) with MIMO
UMTS-/HSxPA-/HSPA+ bands	Band 1 (2100 MHz), band 8 (900 MHz) with diversity
EDGE-/GPRS bands	GSM 900 (900 MHz), DCS 1800 (1800 MHz), PCS 1900 (1900 MHz)
Maximum transmission power	+24 dBm
Interfaces	
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)
ISDN-S0	ISDN-S ₀ 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.
Ant 1, Ant 2	Two SMA connectors for the supplied dipole rod antennas (LTE, UMTS, Edge), compatible LANCOM AirLancer Extender 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).
GPS	SMA jack for connecting an optionally available GPS antenna
WAN protocols	
Ethernet	PPPoE, 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
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	
Manual	Quick Reference Guide (DE/EN), Installation Guide (DE/EN)
Cable	Ethernet cable, 3 m (kiwi-colored connectors), ISDN cable, 3 m (light-blue connectors)
Antennas	Two LTE- / 4G antennas for LTE / UMTS / EDGE
Power adapter	External power supply adapter (230V), NEST 12 V / 1.5 A DC/S, barrel 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.