



...connecting your business

## LANCOM 1781A-3G

### Quick Reference Guide



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



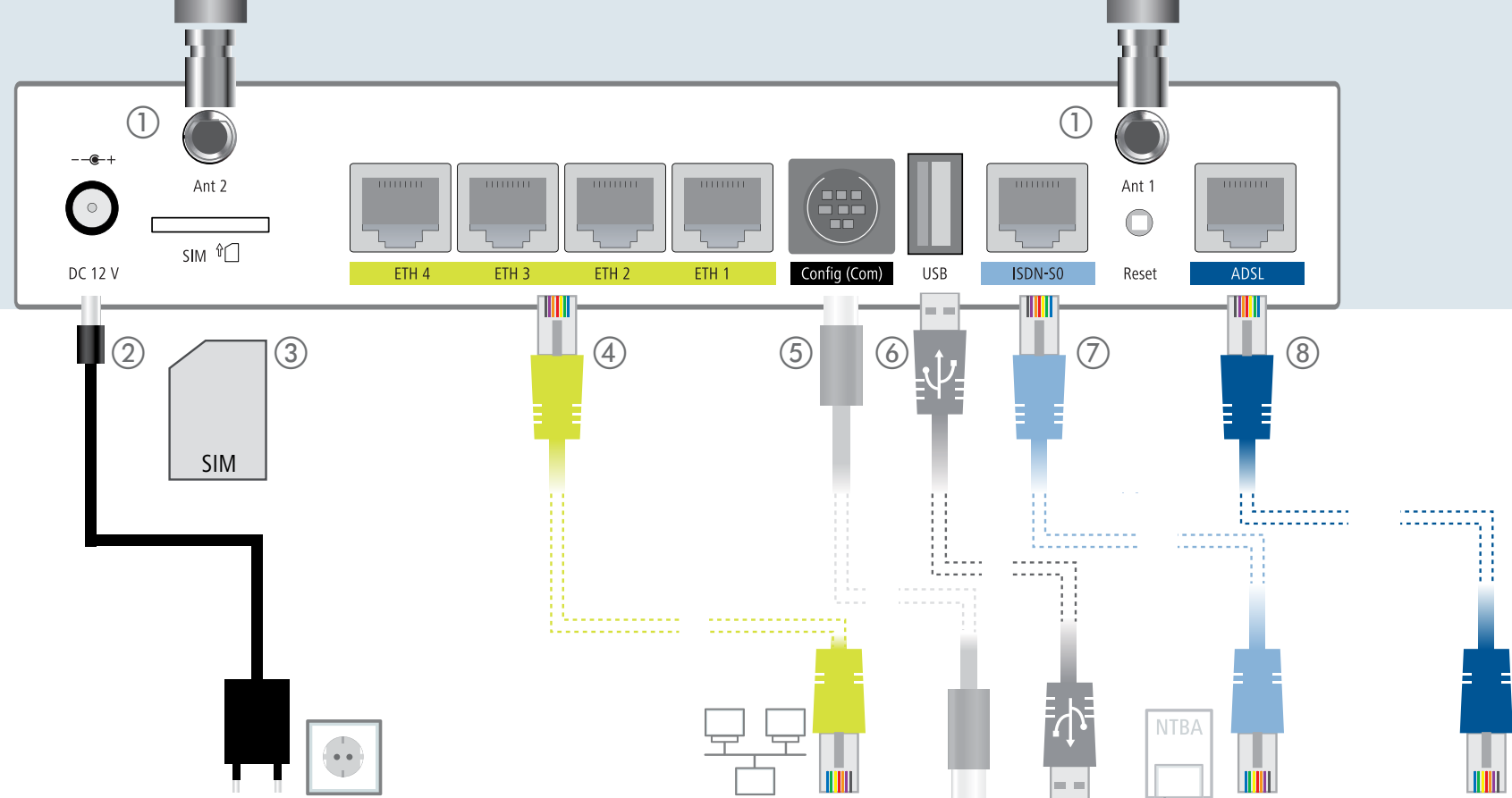
- Do not obstruct the side ventilation slots
- In case of wall mounting, use the drilling template as supplied



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

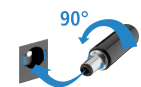


**LANCOM**  
Systems



**1 Optional: 3G antennas or GPS antenna**  
Screw the supplied 3G antennas to the terminals Ant. 1 and Ant. 2. Alternatively, screw the GPS antenna (available at no charge) to the connector Ant 2 (see voucher supplied).

**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.

**3 Optional: SIM card**  
Slide the SIM card into the slot using the marking 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 LAN**  
Use the cable with the green-colored connectors to connect one of the interfaces ETH1 to ETH4 to your PC or a LAN switch.

**5 Optional: Serial configuration cable**  
Connects the device and a PC for carrying out the configuration (cable sold separately).

**7 ISDN cable**  
Use the ISDN cable with the light-blue connectors to connect the ISDN interface to the NTBA if you wish to use ISDN in addition.

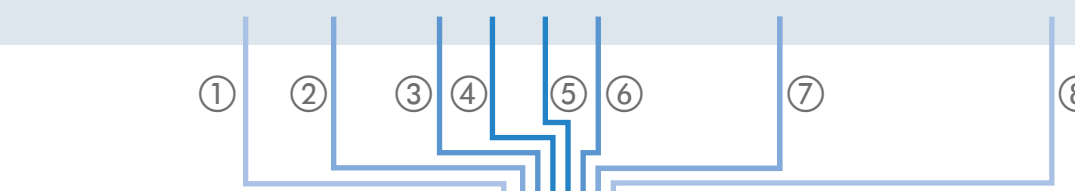
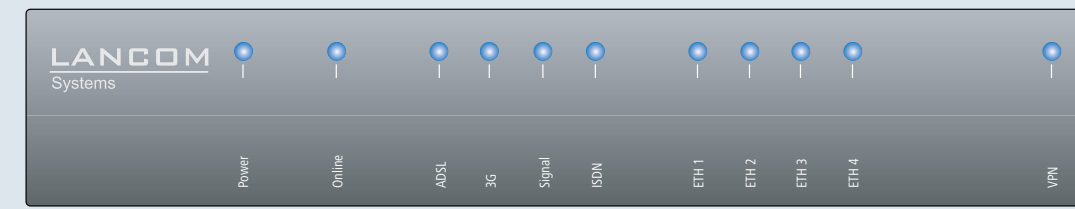
**8 ADSL cable:**  
Connect the cable with the dark-blue connectors to the DSL splitter from your provider. Please ensure that you carefully follow any instructions from your provider regarding the installation of the DSL splitter and NTBA (if applicable).

**6 Optional: USB**  
Connect a compatible USB cellular modem, a USB printer or a USB stick for device configuration via USB interface.

**!** 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. 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 3G 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 3G module!

MOUNTING AND CONNECTING THE DEVICE



1 Power	
Off	Device switched off
Green on (permanently)	Device operational
Blinking green/orange	Configuration password not set. Without a configuration password, the configuration data in the device is unprotected.
Blinking red	Hardware error
Slow blinking in red	Time or charge limit reached/error message occurred

2 Online	
Off	WAN connection inactive
Green on (permanently)	WAN connection active
Red on (permanently)	WAN connection error

3 ADSL	
Off	Interface deactivated
Green on (permanently)	ADSL connection active
Flickering green	ADSL data transmission
Flickering red	ADSL transmission error
Blinking red/orange	ADSL hardware error

4 3G	
Off	Cellular interface deactivated
Blinking red/orange	Uploading module firmware
Blinking red/green	SIM card error (PIN)
Blinking orange	Logging on to cellular network
Orange on (permanently)	Logon to cellular network successful
Green on (permanently)	Active connection to cellular network
Flickering green	Cellular data transmission
Red on (permanently)	Hardware error/Module unavailable

7 ETH	
Off	No link
Green on (permanently)	Network connection ready (link)
Flickering green	Data transmission

6 ISDN	
Off	Interface deactivated
Green on (permanently)	D channel active
Orange on (permanently)	B channel active
Flickering green	ISDN data transfer
Flickering red	ISDN communications error
Blinking red/orange	ISDN hardware error

5 Signal (WWAN – Wireless Wide Area Network)	
Off	No reception
Blinking orange	Low signal strength, field strength less than -87 dB
Orange on (permanently)	Medium signal strength, field strength -86 – -71 dB
Green on (permanently)	Good signal strength, greater or equal to -70 dB

Hardware	
Power supply	12 V DC, external power adapter (230V) 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

Interfaces	
ADSL	<ul style="list-style-type: none"> <li>ADSL compliance: ADSL2+ as per ITU G.992.5 Annex A/Annex B/Annex M, ADSL2 as per ITU G.992.3 Annex A/Annex B/Annex J/Annex M, ADSL as per ITU G.992.1 Annex A/Annex B</li> <li>Supports just one virtual connection at a time in ATM (VPI-VCI pair)</li> </ul>

ETH	4 individual 10/100/1000-Mbps Fast Ethernet ports; operate as switch ex-factory. Up to 3 ports can be switched as additional WAN ports. Ethernet interfaces can be completely electrically disabled in the LCOS configuration
Ant1, Ant2	Two SMA antenna connectors for external UMTS antennas (RX diversity) or for operating a GPS antenna at the AUX connector
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-S <sub>0</sub>	ISDN-S <sub>0</sub> bus
Config (COM)	Serial configuration interface / COM port (8-pin Mini-DIN): 9,600 - 115,000 baud, suitable for optional connection of analog/GPRS modems. Supports internal COM-port server and provides transparent asynchronous serial-data transfer via TCP

WLAN protocols	
ADSL2+	PPPoE, Multi-PPPoE, ML-PPP, PPTP (PAC or PNS) and IPoE (with or without DHCP), RIP-1, RIP-2, VLAN
ISDN	1TR6, DSS1 (Euro- ISDN), PPP, X75, HDLC, ML-PPP, V.110/GSM/HSCSD

UMTS/3G+ modem	
Supported standards:	UMTS, HSPA+ (HSPA with up to 21 Mbps, HSUPA with up to 5.76 Mbps), EDGE and GPRS support
UMTS HSxPA bands	850/900/1900/2100 MHz
EDGE GPRS bands	850/900/1800/1900 MHz (EDGE to max. 236 kbps)

Declaration of conformity	
CE	EN 55022, EN 55024, EN 60950
Notifications	Certifications notified in Germany, Belgium, Netherlands, Luxembourg, Spain, Switzerland, UK, Italy, Portugal, Czech Republic, Denmark, Malta, 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) and documentation

Antennas	2 dipole indoor antennas for attachment to device
Cable	1 Ethernet cable, 3m (kiwi-colored connectors)
Cable	1 ADSL cable, 3m (dark-blue connectors)
Cable	1 ISDN cable, 3m (light-blue connectors)
Power adapter	External power supply adapter (230V), NEST 12 V/1.5 A DC/5, barrel connector 2.1/5.5 mm bayonet, LANCOM item no. 110723

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This product contains separate modem firmware with open-source software components. These are subject to their own licenses, in particular the General Public License (GPL). The license text for the modem firmware is available on the data medium supplied. If the respective license demands, the source files for the corresponding software components will be made available on a download server upon request. License information for the device firmware (LCOS) is available in the file LCOS-Licenses.txt on the data medium supplied.

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TECHNICAL DETAILS