



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



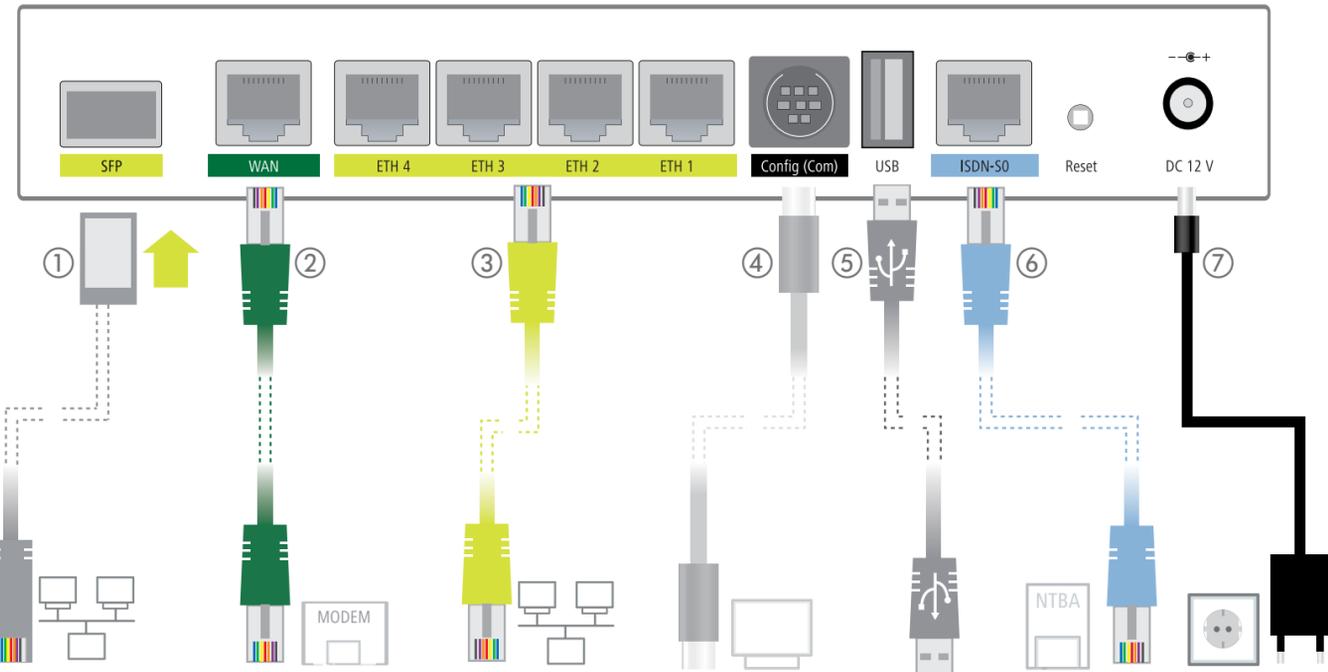
- Rack installation with the optional LANCOM Rack Mount (not supplied)



LANCOM 1781EF+ Quick Reference Guide



LANCOM
Systems



- SFP interface**
Insert a suitable SFP module (e.g. 1000Base-SX or 1000Base-LX) into the SFP Interface. Choose the cable with the connectors that fit to the SFP module and connect it as described in the SFP module's documentation. The SFP module and the associated connector cable are not supplied.
- WAN interface**
Use the cable with the green connectors to connect the WAN interface to your WAN modem.
- 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**
Configuring the device via the serial interface requires a serial configuration cable (available as an accessory).
- USB interface**
Connect a USB data medium or a USB printer to the USB interface. (USB cable not supplied)
- 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 in addition.
- 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.

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
Red/green, blinking	Configuration password not set. Without a configuration password, the configuration data in the device is unprotected.
Red, blinking	Hardware error
Red, blinking slowly	Time or charge limit reached/error message occurred
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 SFP

Off	SFP-1 deactivated in the configuration or SFP module present, no connection to network device
Red, permanently	SFP-1 enabled in the configuration but no SFP module present
Green, permanently	SFP module present, connection to network exists, no data transmission
Green, blinking	Data transmission
Red, blinking	SFP module present, hardware error

4 WAN

Off	Interface deactivated
Orange, blinking	Synchronization with the modem
Orange, permanently	Synchronization with the modem successful
Green, permanently	WAN connection established
Green, flickering	WAN data transmission
Red/orange, blinking	Hardware error, ext. modem

5 ISDN**

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

6 ETH

Off	No link
Green, permanently	Network connection ready (link)
Green, flickering	Data transmission

7 VPN

Off	No VPN connection active
Green, permanently	VPN connection active
Green, blinking	Establishing VPN connection

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

Hardware	
Power supply	12 V DC, external power adapter (110 or 230 V) with bayonet connector to secure against disconnection
Power consumption	Max. ca. 11 W
Environment	Temperature range 0 – 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	
WAN	10 / 100 / 1000 Mbps Gigabit Ethernet
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.
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-S ₀ bus
SFP	Socket for small form-factor pluggable Gigabit-Ethernet transceiver (mini-GBIC). Compatible with optional LANCOM SFP modules for optical connections over short distances (SX) or longer distances (LX). Set as a LAN port ex-factory, can be configured as a WAN port
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 internal COM-port server and provides transparent asynchronous serial data transmission via TCP
WAN protocols	
Ethernet	PPPoE, Multi-PPPoE, ML-PPP, PPTP (PAC or PNS) and IPoE (with or without DHCP), RIP-1, RIP-2, VLAN, IP
Declaration of Conformity	
Hereby, LANCOM Systems declares that this device is in compliance with Directives 2014/30/EU and 2014/35/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	Hardware Quick Reference Guide (DE/EN); Installation Guide (DE/EN), FCC Documentation (US version only)
Cable	2 Ethernet cables, 3m (LAN: kiwi-colored connector; WAN: green connector); ISDN cable, 3 m
Power adapter	External power supply adapter, 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); LANCOM item no. 111007 (US, 110 V)

***) ISDN is not available in the product variants for the US, Canada, Australia and South Africa.

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.