

bintec WLAN and Industrial WLAN

Quick Install Guide

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Aim and purpose

This document is part of the user manual for the installation and configuration of Teldat devices. For the latest information and notes on the current software release, please also read our release notes, particularly if you are updating your software to a higher release version. You will find the latest release notes under www.teldat.de.

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Table of Contents

Chapter 1	Introduction	1
Chapter 2	Installation.	3
2.1	bintec W1003n, W2003n, W2003n-ext and W2004n.	3
2.2	bintec W1002n	12
2.3	bintec WI1040n and WI2040n	21
2.4	bintec WI1065n and WI2065n	33
2.5	Cleaning	45
2.6	Frequencies and channels	45
2.7	Support information	45
2.8	WEEE information	46
Chapter 3	Basic configuration	47
3.1	Presettings	47
3.2	System requirements	49
3.3	Preparation	49
3.4	IP configuration.	53
3.5	Modify system password.	56
3.6	Setting up a wireless network	57
3.7	Setting up a bridge link	58
3.8	Software Update	59

Chapter 1 Introduction

The new generation access points are manufactured in an environmentally friendly way and meet the RoHS directive. They support the latest WLAN technology and are designed for use particularly in the professional environment.

Safety notices

The **safety precautions** brochure, which is supplied with your device, tells you what you need to take into consideration when using your access point.

Installation

How to connect your device is shown in chapter [Installation](#) on page 3.

Configuration

Chapter [Basic configuration](#) on page 47 also tells you what preliminary tasks are necessary for configuration. You will then be shown how you can access your device from a Windows PC using a current web browser and how to make basic settings.

Password

If you are familiar with the configuration of Teldat devices and you want to get started right away, all you really need to know is the preset user name and password.

User Name: *admin*

Password: *admin*



Note

Remember to change the password immediately when you log in to the device for the first time. All Teldat devices are supplied with the same password, which means they are not protected against unauthorised access until you change the password. How to change the passwords is described in chapter [Modify system password](#) on page 56.

Workshops

Step-by-step instructions for the most important configuration tasks can be found in the separate **Application Workshop** guide for each application, which can be downloaded from the www.teldat.de website under **Solutions**.

Dime Manager

The devices are also designed for use with **Dime Manager**. The **Dime Manager** management tool can locate your bintec devices within the network quickly and easily. The .NET-based application, which is designed for up to 50 devices, offers easy to use functions and a comprehensive overview of devices, their parameters and files.

All devices in the local network, including remote devices that can be reached over SNMP, are located using SNMP Multicast irrespective of their current IP address. A new IP address and password and other parameters can also be assigned. A configuration can then be initiated over HTTP or TELNET. If using HTTP, the Dime Manager automatically logs into the devices on your behalf.

System software files and configuration files can be managed individually as required or in logical groups for devices of the same type.

You can find the **Dime Manager** on the enclosed product DVD.

Chapter 2 Installation



Note

Please read the safety notices carefully before installing and starting up your device. These are supplied with the device.

2.1 bintec W1003n, W2003n, W2003n-ext and W2004n

2.1.1 Setting up and connecting



Note

All you need for this are the cables and antennas supplied with the equipment.

The devices **bintec W1003n**, **bintec W2003n** and **bintec W2004n** are equipped integrated antennas. Their radiation is optimized for ceiling mounting.

The device **bintec W2003n-ext** uses included external antennas.

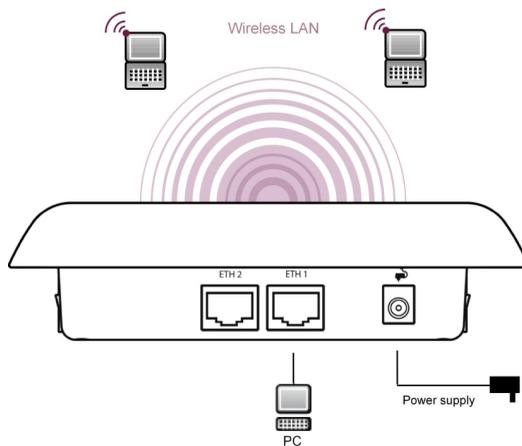


Fig. 2: Connection options **bintec W2003n** , **bintec W2003n-ext**, **bintec W2004n**

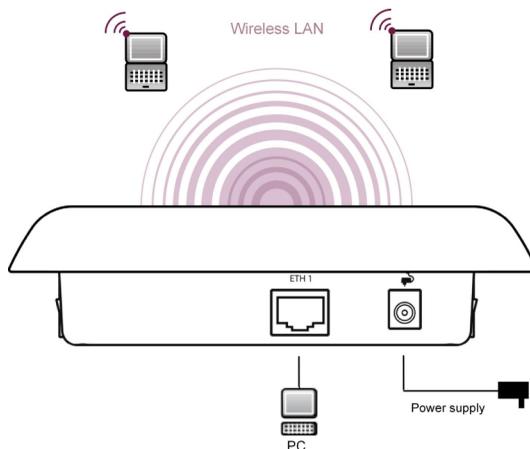


Fig. 3: Connection options **bintec W1003n**

When setting up and connecting LAN, carry out the steps in the following sequence:

(1) Antennas

For **bintec W2003n-ext** screw the standard antennas supplied on to the connectors provided for this purpose. If you are using alternative antennas, please note that you have to connect MIMO antennas to the ports Ant 1 and Ant 2 and a SIMO antenna to port Ant1.

(2) LAN

For the standard configuration of your device via Ethernet, connect port **ETH1** or **ETH2** of your device to your LAN using the Ethernet cable supplied. **bintec W1003n** has a single Gigabit Ethernet port, **ETH1**.

The device automatically detects whether it is connected to a switch or directly to a PC.

Use just one of the ports **ETH1** and **ETH2**, the second port is used to cascade a number of devices. If you use both Ethernet connections on the same switch, loops may be formed.

The standard patch cable (RJ45-RJ45) is symmetrical. It is therefore not possible to mix up the cable ends.

(3) Power connection



Note

The devices **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n** are supplied without a mains unit. The power adapter with EU plug (part number 5500001254) is available as an accessory.

Connect the device to a mains socket. Use the power cord and insert it in the appropriate socket on your device. Now plug the power cord into a power socket (100–240 V). The status LED signal that your device is correctly connected to the power supply. Optionally, power can be supplied through a standard PoE injector (part number 5530000082).

Installation

The access points are to be mounted either on the wall or on the ceiling, or use as a table-top device.

Use as a table-top device

Attach the four self-adhesive feet on the bottom of the device. Place your device on a solid, level base.

Wall-/ Ceilingmounting

To attach the devices **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** or **bintec W2004n** to the wall or ceiling, use the appropriate support is included (part number 5500001278).



Warning

Before drilling, make sure that there are no building installations where you are drilling. If gas, electricity, water or waste water lines are damaged, you may endanger your life or damage property.

- Screw the mount to the wall or ceiling.
- Hang the device in the mount with the screw nut but do not tighten it. Make sure the device connections are accessible.
- If desired, protect the device against theft with a Kensington lock.

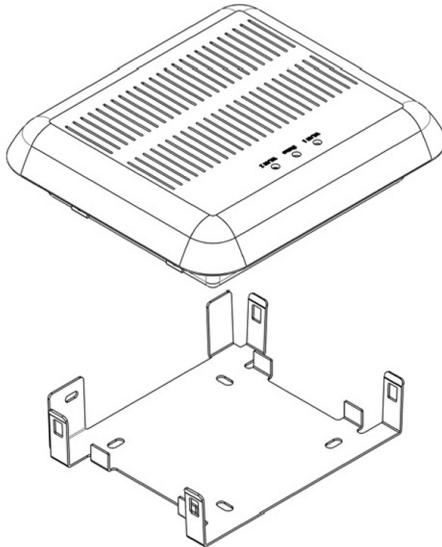


Fig. 4: Ceiling of **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n**

2.1.2 Connectors

All the connections are located on the underside of the device.

bintec W1003n has an Ethernet port, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n** have two Ethernet ports.

The connections are arranged as follows:

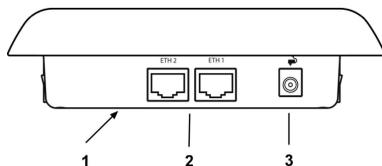


Fig. 5: Underside **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n**

Underside of bintec W2003n, bintec W2003n-ext and bintec W2004n

1	RESET	Reset button performs restart (base plate of the device)
2	ETH1/PoE und ETH2	10/100/1000 Base-T Ethernet interfaces. In bintec W1003n only ETH1 is available!
3	POWER	Socket for power supply

2.1.3 LEDs

The LEDs show the radio status and radio activity of your device.



Note

Note that the number of active WLAN LEDs depends on the number of existing wireless modules.

The LEDs on **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n** are arranged as follows:



Fig. 6: LEDs of **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n**

In operation mode, the LEDs display the following status information for your device:

LED status display

LED	Status	Information
Status (green)	off	The power supply is not connected. If other LEDs are on, also Error.
	on (static)	Error
	on (flashing)	Ready
WLAN 1/2 (grün)	off	Radio or all assigned VSS inactive
	on (slowly flashing)	VSS is active, no client connected
	on (fast flashing)	VSS is active, at least one client connected
	on (flickering)	VSS is active, at least one client connected, active data traffic

You can choose from three different operation modes of the LEDs in the **Global Settings** menu as well as with the **WLAN Controller**.



Note

If you change the LED behavior through the **GUI** or the **WLAN Controller**, this setting is preserved if you reset the device to the ex-works state.

State	Only the status LED flashes once per second.
Flashing	All LEDs show their standard behavior.
Off	All LEDs are deactivated.

2.1.4 Scope of supply

Your device comes with the following accessories:

	Cable sets/mains unit/ other	Software	Documentation
bintec	Ethernet cable (RJ-45,	Companion	Quick Install Guide

	Cable sets/mains unit/ other	Software	Documentation
W1003n	STP) Self-adhesive feet Wall or ceiling mounting	DVD	(printed) R&TTE Compliance In- formation (printed) User's Guide (on DVD) Safety notices
bintec W2003n	Ethernet cable (RJ-45, STP) Self-adhesive feet Wall or ceiling mounting	Companion DVD	Quick Install Guide (printed) R&TTE Compliance In- formation (printed) User's Guide (on DVD) Safety notices
bintec W2003n-ext	Ethernet cable (RJ-45, STP) 4 external standard RSMA antennas Self-adhesive feet Wall or ceiling mounting	Companion DVD	Quick Install Guide (printed) R&TTE Compliance In- formation (printed) User's Guide (on DVD) Safety notices
bintec W2004n	Ethernet cable (RJ-45, STP) Self-adhesive feet Wall or ceiling mounting	Companion DVD	Quick Install Guide (printed) R&TTE Compliance In- formation (printed) User's Guide (on DVD) Safety notices

2.1.5 General Product Features

The general product features cover performance features and the technical prerequisites for installation and operation of your device.

The features are summarised in the following table:

General Product Features

Property	Value
Dimensions and weights:	
Equipment dimensions without cable (W x L x H)	ca. 162 x 145 x 45 mm
Weight	approx. 1,000 g (with WLAN modules)
LEDs	<p>bintec W1003n: 3 (1x Power, 1x WLAN, 1x Ethernet)</p> <p>bintec W2003n, bintec W2003n-ext and bintec W2004n: 4 (1x Power, 2x WLAN, 2x Ethernet)</p>
Power consumption of the device	max. 12 W
Voltage supply	<p>9 V, 1.3 A (The power adapter with the part number 5500001254 is available as an accessory.)</p> <p>PoE an Ethernet 1 Class 0, according to 802.3af (max. 12.4 W). The Gigabit PoE Injector with part number 5530000082 is available as an accessory.</p>
Environmental requirements:	
Storage temperature	-40 °C to +85 °C
Operating temperature	0 °C to +40 °C
Relative atmospheric humidity	10 % to 100 %
Available interfaces:	
WLAN	<p>bintec W1003n: 1 Radio module 802.11abgn 2,4 oder 5GHz Mimo 2x2</p> <p>bintec W2003n: 1 Radio module 802.11bgn 2,4GHz Mimo 2x2; 1 Radiomodul 802.11an 5GHz Mimo 2x2</p> <p>bintec W2003n-ext: 1 Radio module 802.11abgn 2,4 or 5GHz Mimo 2x2; 1 Radio module 802.11abgn 2,4 or 5GHz Mimo 2x2</p> <p>bintec W2004n: 1 Radio module 802.11bgn 2,4GHz Mimo 3x3; 1 Radiomodul</p>

Property	Value
	802.11an 5GHz Mimo 3x3
Ethernet IEEE 802.3 LAN	10/100/1000 mbps
Available sockets:	
Ethernet interface	bintec W1003n : 1 RJ45 socket bintec W2003n, bintec W2003n-ext and bintec W2004n : 2 RJ45 sockets
Antennas:	
Antenna connection	bintec W1003n : 2 internal antennas bintec W2003n : 4 internal antennas bintec W2003n-ext : 4 externe dualband antennas bintec W2004n : 6 internal antennas
Transmit Power (WLAN)	max. 100 mW (20 dBm) EIRP
Standards & Guidelines	R&TTE Directive 1999/5/EC EN 60950-1 (IEC60950); EN 60950-22; EN 301489-1; EN301489-17; EN 55022; EN 300328-1; EN 301893; EN 302502; EN 50371
Buttons	Reset

2.1.6 Reset

If the configuration is incorrect or if your device cannot be accessed, you can reset the device to the ex works standard settings using the Reset button on the bottom of the device.

All existing configuration data will be deleted.

For **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n** proceed as follows:

- (1) Press the **Reset** button on your device.
- (2) Keep the **Reset** button on your device pressed.
- (3) Look at the LEDs:
The Staus LED is lit. the device runs through the boot sequence.

When the Status LED starts flashing again, release the **Reset** button.

You can now configure your device again as described from [Basic configuration](#) on page 47.



Note

If you delete the boot configuration using the **GUI**, all passwords will also be reset and the current boot configuration deleted. The next time, the device will boot with the standard ex works settings.



Note

If you have changed the LED behavior to something other than the default value, this setting is preserved after resetting the device.

2.2 bintec W1002n

2.2.1 Setting up and connecting



Note

All you need for this are the cables and antennas supplied with the equipment.



Caution

The use of the wrong mains adapter may damage your device. Only use the mains adaptor supplied! If you require foreign adapters/mains units, please contact our Teldat service.

bintec W1002n is equipped with a single radio module and three standard screw-on antennas. Power is supplied through a wall power supply

or through PoE (Power over Ethernet).

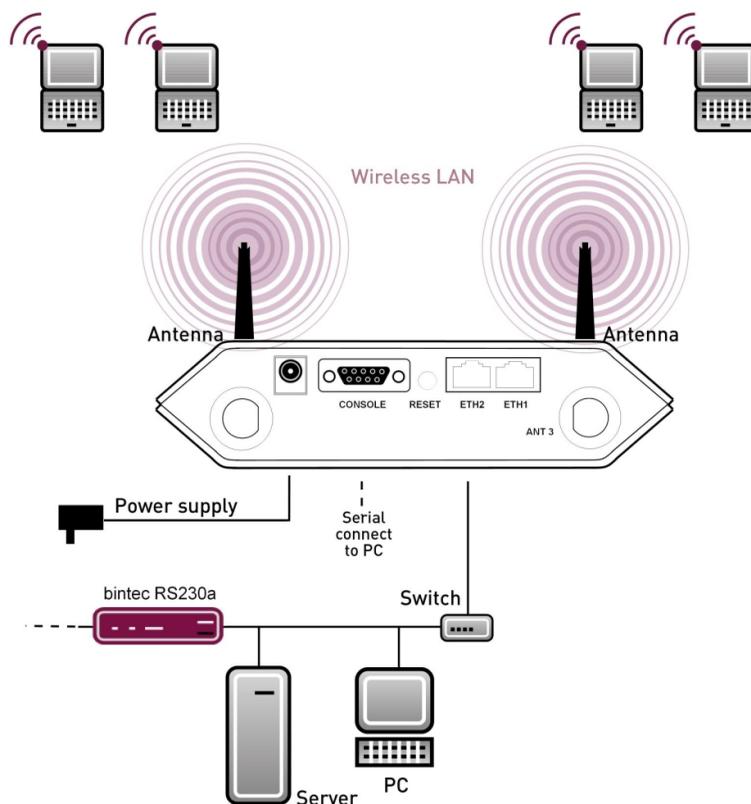


Fig. 7: Connection options **bintec W1002n**

When setting up and connecting, carry out the steps in the following sequence:

(1) Antennas

Screw the standard antennas supplied on to the connectors provided for this purpose.

(2) LAN

For the standard configuration of your device via Ethernet, connect port **ETH1** or **ETH2** of your device to your LAN using the Ethernet cable supplied. The device automatically detects whether it is connected to a switch or directly to a PC.

Use just one of the ports **ETH1** and **ETH2**, the second port is used to cascade a number of devices. If you use both Ethernet

connections on the same switch, loops may be formed.

The standard patch cable (RJ45-RJ45) is symmetrical. It is therefore not possible to mix up the cable ends.

(3) Power connection

Connect the device to a mains socket.

Use the power cord supplied and insert it in the appropriate socket on your device. Now plug the power cord into a power socket (100–240 V). The status LEDs signal that your device is correctly connected to the power supply. Optionally, power can be supplied through a standard PoE injector (part number 5530000082).

You can set up further connections as required:

- **Serial connection:** For alternative configuration possibilities, connect the serial interface of your PC (**COM1** or **COM2**) to the serial interface of the gateway (**console**). However, configuration via the serial interface is not provided by default.

Installation

The access points can be fitted to the wall using brackets or can be used as a table-top device.

Use as a table-top device

Attach the four self-adhesive feet on the bottom of the device. Place your device on a solid, level base.

Wallmounting

To attach the devices **bintec W1002n** to the wall, use the brackets on the back of the housing. Optional wall mounting with theft protection (part number 5510000009) is available.



Warning

Before drilling, make sure that there are no building installations where you are drilling. If gas, electricity, water or waste water lines are damaged, you may endanger your life or damage property.

- Screw the mount to the wall with the 2 screws.

- Hang the device in the mount with the screw nut but do not tighten it. Make sure the device connections are accessible.
- Protect the device against theft with the theft protection.

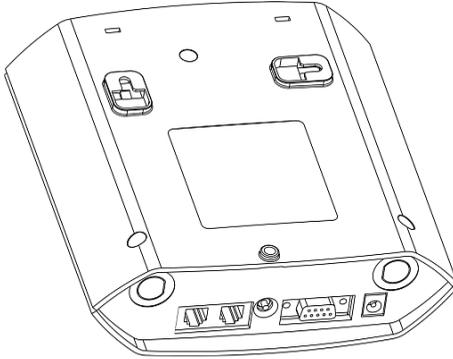


Fig. 8: Wall mounting straps **bintec W1002n**

2.2.2 Connectors

All the connections are located on the underside of the device.

On **bintec W1002n** the third antenna connection is located on the underside of the device.

bintec W1002n has two Ethernet ports and a serial interface.

The connections are arranged as follows:

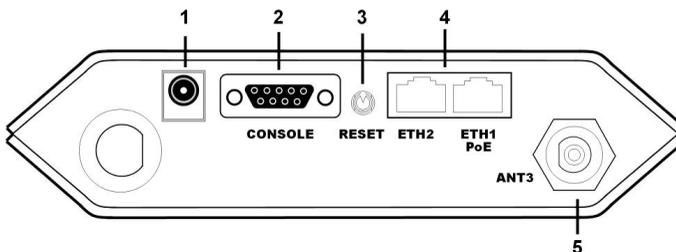


Fig. 9: **bintec W1002n underside**

bintec W1002n underside

1	POWER	Socket for plug-in power pack
2	CONSOLE	Serial interface

3	RESET	Reset button
4	ETH1/PoE and ETH2	10/100 Base-T Ethernet interface
5	ANT3	Connections for screwing on the external antennas ANT3 = RX3
Top with out Fig.	ANT1/ANT2	Connections for screwing on the external antennas ANT1 = TX/RX1 (Connection of first directional antenna) ANT2 = TX/RX2 (Connection of second option directional antenna)

2.2.3 Antenna connectors

The three antenna for devices **bintec W1002n** have 2 Transmit and 3 Receive functions in n operating mode MIMO 2T3R. WLAN 1 Ant. 1 and WLAN 1 Ant. send and receive, Ant. 3 only receives. The connectors on industrial WLAN devices with 802.11n support are the same as the connectors on other industrial WLAN devices.

2.2.4 LEDs

The LEDs show the radio status, radio activity and Ethernet activity of your device.

All LEDs are on during the start-up process. This means the monitor has been started and firmware is being loaded.

The LEDs on **bintec W1002n** are arranged as follows:



Fig. 10: LEDs of **bintec W1002n**

In operation mode, the LEDs display the following status information for your device:

LED status display bintec W1002n

LED	Status	Information
Status	off	The power supply is not connected. If other LEDs are on, also Error.
	on (static)	Error
	on (flashing)	Ready
WLAN 1	on (flashing slowly)	Free
	on (static)	At least one client is registered.
	on (flickering)	At least one client is registered and there is data traffic.
	on (flashing fast)	BLD (Broken Link Detection) active
	on (flashing fast)	5 GHz scan active
ETH 1/2	off	No cable or no Ethernet link
	on	Cable plugged in and link
	on (flickering)	Cable plugged in and link with data traffic

2.2.5 Scope of supply

Your device is supplied with the following parts:

	Cable sets/mains unit/other	Software	Documentation
bintec W1002n	Ethernet cable (RJ-45, STP)	Companion DVD	Quick Install Guide (printed)
	Plug-in power pack (12 V/230 V)		R&TTE Compliance Information (printed)
	3 external standard antennas	User's Guide (on DVD)	
	Self-adhesive feet to allow the device to be used as a desktop device	Safety notices	
	2 screws and 2 raw plug for fastening to the wall		

2.2.6 General Product Features

The general product features cover performance features and the technical prerequisites for installation and operation of your device.

The features are summarised in the following table:

General Product Features bintec W1002n

Property	Value
bintec W1002n	One internal wireless module, 3 external antennas
Dimensions and weights:	
Equipment dimensions without cable (W x L x H)	163 mm x 168 mm x 50 mm
Weight	approx. 430 g
LEDs	4 (1x Status, 1x WLAN, 2x Ethernet)
Power consumption of the device	5-10 Watt, depending on extensions

Property	Value
Voltage supply	External switched-mode power supply 12 V DC, 1.25 A PoE on Ethernet 1 Class 0 (insulated) with one WLAN module. A Gigabit PoE injector is available as an accessory (part number 5530000082).
Environmental requirements:	
Storage temperature	-10 °C to +70 °C
Operating temperature	0 °C to 40 °C
Relative atmospheric humidity	10 % to 95 % (non-condensing)
Room classification	Only use in dry rooms.
Available interfaces:	
Serial interface V.24	Permanently installed, supports Baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 Baud
Ethernet IEEE 802.3 LAN (2-port switch)	Permanently installed (twisted pair only), 10/100 mbps, autosensing, MDIX
Available sockets:	
Serial interface V.24	9-pin Sub-D connector
Ethernet interface	RJ45 socket
Antennas:	
Antenna connection	RTNC socket
Transmit Power	max. 100 mW (20 dBm) EIRP
Frequency bands	2.4 GHz Indoor/Outdoor (2412-2,472 MHz) 5 GHz Indoor (5150-5350 MHz) 5 GHz Outdoor (5470-5725 MHz) 5 GHz BFWA (5755-5875 MHz) only in Germany and Great Britain (reporting obligations in Germany, licencing obligations in Great Britain).
Standards & Guidelines	R&TTE Directive 1999/5/EC EN 60950-1 (IEC60950); EN 300 328; EN 301 489-17;EN 301 489-1; EN 301 893; EN 60601-1-2 (Medical electrical equipment -

Property	Value
	Part 1-2)
Buttons	A monitor button

2.2.7 Reset

If the configuration is incorrect or if your device cannot be accessed, you can reset the device to the ex works standard settings using the Reset button on the bottom of the device.

Practically all existing configuration data will then be ignored, only the current user passwords are retained. Configurations stored in the device are not deleted and can, if required, be reloaded when the device is re-booted.

For **bintec W1002n** proceed as follows:

- (1) Switch off your device.
- (2) Press the **Reset** button on your device.
- (3) Keep the **Reset** button on your device pressed down and switch the device back on.
- (4) Look at the LEDs:
 - Initially all LEDs illuminate.
 - The device runs through the boot sequence.
 - After the LED has flashed three times, release the **Reset** button.
 - The *Status* LED flashes and the *Eth 1* and *Eth 2* LEDs illuminate if these exist for the ports that are connected to the Ethernet.

Proceed as follows if you also want to reset all the user passwords to the ex works state and delete stored configurations when resetting the device:

- (1) Set up a serial connection to your device. Reboot your device and monitor the boot sequence. Start the BOOTmonitor and choose the **(4) Delete Configuration** and follow the instructions.
or
- (2) Set up a serial connection to your device. First carry out the reset procedure described and enter *erase bootconfig* as **Login** at the login prompt in the command line. Leave the password empty and press the Return key. The device runs through the boot se-

quence again.

You can now configure your device again as described from [Basic configuration](#) on page 47.



Note

If you delete the boot configuration using the **GUI**, all passwords will also be reset and the current boot configuration deleted. The next time, the device will boot with the standard ex works settings.

2.3 bintec WI1040n and WI2040n

2.3.1 Setting up and connecting



Note

All you need for this are the cables and antennas supplied with the equipment.



Note

For the **bintec Wlx040n** series devices, a screw terminal bar is included as standard for power supply.

The industrial access point **bintec WI1040n** is equipped with a single radio module and three external antennas, **bintec WI2040n** is equipped with two radio modules and four external antennas.

Devices of the industrial WLAN series with 802.11n support are fitted with a unit that heats the radio module to operating temperature when the temperature falls below 10 degrees Celsius. Once this temperature has been reached, the device continues with the start-up process. During the heating phase the red Failure LED flashes.

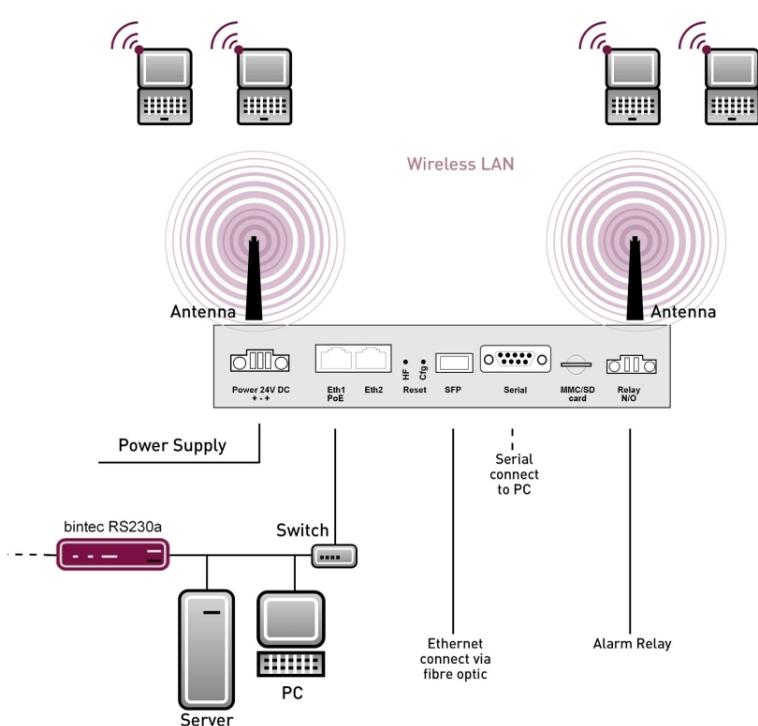


Fig. 11: Connection options **bintec Wlx040n**

When setting up and connecting, carry out the steps in the following sequence:

(1) Antennas

Screw the standard antennas supplied on to the connectors provided for this purpose.

(2) LAN

For the standard configuration of your device via Ethernet, connect port **ETH1** or **ETH2** of your device to your LAN using the Ethernet cable supplied. The device automatically detects whether it is connected to a switch or directly to a PC.

Use just one of the ports **ETH1** and **ETH2**, the second port is used to cascade a number of devices. If you use both Ethernet connections on the same switch, loops may be formed.

The standard patch cable (RJ45-RJ45) is symmetrical. It is therefore not possible to mix up the cable ends.

(3) Power connection

Connect the device to a mains socket.

Use the power cord supplied and insert it in the appropriate socket on your device. Now plug the power cord into a power socket (100–240 V). The status LEDs signal that your device is correctly connected to the power supply. Optionally, power can be supplied through a standard PoE injector (part number 553000082).



Note

bintec Wlx040n series products are supplied without a mains unit. All devices must be earthed.



Note

To restrict power in the event of a fault, the 24 V DC electric circuit is to be protected with an external 2 A fuse on the installation side for **bintec Wlx040n**. The relay contact must also be protected externally with a 1-A fuse (AC) or 2-A fuse (DC).

You can set up further connections as required:

- Serial connection: For alternative configuration possibilities, connect the serial interface of your PC (**COM1** or **COM2**) to the serial interface of the gateway (**console**). However, configuration via the serial interface is not provided by default.

Installation

The access points can be either be used as tabletop units or can be wall mounted with hangers integrated into the housing. Optionally, they can be mounted with a top hat rail.

Use as a table-top device

Attach the four self-adhesive feet on the bottom of the device. Place your device on a solid, level base.

Wallmounting

To attach the **bintec Wlx040n** series devices to the wall, use the brackets on the back of the housing. Optional wall mounting with theft protection (part number 5020590400), and DIN rail (part number 5000592600)

is available.



Warning

Before drilling, make sure that there are no building installations where you are drilling. If gas, electricity, water or waste water lines are damaged, you may endanger your life or damage property.

- Screw the mount to the wall with the 2 screws.
- Hang the device in the mount with the screw nut but do not tighten it. Make sure the device connections are accessible.
- Protect the device against theft with the lock supplied.



Fig. 12: Wall mounting of the **bintec Wlx040n** (standard design, DIN rail or theft protection optional)

2.3.2 Connectors

All the connections are located on the underside of the device.

bintec WI1040n, and **bintec WI2040n** have two Ethernet ports and a serial interface.

The connections are arranged as follows:

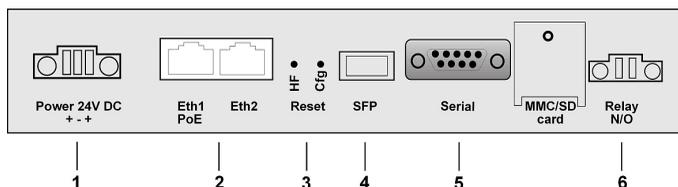


Fig. 13: Underside **bintec WI1040n** and **bintec WI2040n**

Underside of bintec WI1040n and bintec WI2040n

1	Power 24V DC	Socket for power supply
2	Eth1 (PoE) / Eth2	10/100 Base-T Ethernet interfaces
3	Reset (HW and Cfg)	Reset button and delete configuration
4	SFP	SFP slot for 100 Mbit/s fibre module (optional)
5	Serial	Serial interface RS232
6	Relay N/O	Alarm relay

2.3.3 Antenna connectors



Note

The three antenna for devices **bintec WI1040n** have 2 Transmit and 3 Receive functions in n operating mode MIMO 2T3R. WLAN 1 Ant. 1 and WLAN 1 Ant. send and receive, Ant. 3 only receives.

For devices **bintec WI2040n** only 2 antenna are used for each of the 2 wireless modules. These are both sending and receiving antenna. There is no third receiving antenna; this is MIMO 2T2R operating mode.

However gross rates of 300 Mbps are possible. The receiving sensitivity decreases slightly. Only 2 antenna connections are required to operate bridgelink with dual polarisation antenna.

Antenna should be $\Lambda/2$ or a multiple of this. In **bintec Wlx040n** the antenna are 37 mm apart.

2.4 GHz $\Lambda/2$ corresponds to 6.15 cm; 5 GHz $\Lambda/2$ corresponds to 2.72 cm.

Devices with 802.11n support can use up to 3 antenna per wireless module. The assignment of the existing 4 antenna connectors is shown in the following graphic:

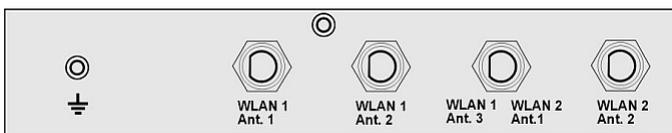


Fig. 14: Antenna configuration for **bintec WIx040n** devices

2.3.4 LEDs

The LEDs show the radio status, radio activity, Ethernet activity and LED states of your device. The LED states are indicated by combinations of the LEDs.

During the heating phase the red Failure LED flashes. Once this temperature has been reached, the device continues with the start-up process.

All LEDs are on during the start-up process. This means the monitor has been started and firmware is being loaded.



Note

Note that the number of active WLAN LEDs depends on the number of existing wireless modules.

The LEDs on **bintec WI1040n** and **bintec WI2040n** are arranged as follows:

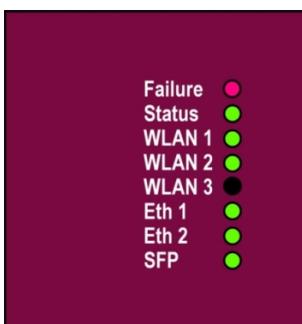


Fig. 15: LEDs of **bintec WI1040n** and **bintec WI2040n**

In operation mode, the LEDs display the following status information for your device:

LED status display bintec WI1040n and bintec WI2040n

LED	Status	Information
Failure (red)	on	After power-up and during booting or if an error occurs.
	flashes	During the heating phase.
	off	If the device is at the login prompt.
Status (green)	off	The power supply is not connected. If other LEDs are on, also Error.
	on (static)	Error
	on (flashing)	Ready
WLAN 1/2 (2x green) WLAN 3 without function	on (flashing slowly)	Free
	on (static)	At least one client is registered.
	on (flickering)	At least one client is registered and there is data traffic.
	on (flashing fast)	BLD (Broken Link Detection) active
	on (flashing fast)	5 GHz scan active
ETH 1/2 (2x green)	off	No cable or no Ethernet link
	on	Cable plugged in and link
	on (flickering)	Cable plugged in and link with data traffic
SFP (green)	off	No data traffic
	on	Data traffic via the SFP interface.
	on (flickering)	Cable plugged in and data traffic

2.3.5 Scope of supply

Your device is supplied with the following parts:

	Cable sets/mains unit/ other	Software	Documentation
bintec WI1040n	Ethernet cable (RJ-45, STP) Serial cable (D-SUB9) 3 external standard antennas Self-adhesive feet to allow the device to be used as a desktop device Blind stops for SFP SD slot cover with screw 3-pole screw terminal bar for the power supply 2-pole screw terminal bar for relay Mounting bracket for wall mounting 1 screw pin set Blind stops for Ethernet interfaces	Companion DVD	Quick Install Guide (printed) R&TTE Compliance Information (printed) User's Guide (on DVD) Safety notices
bintec WI2040n	Ethernet cable (RJ-45, STP) Serial cable (D-SUB9) 4 external standard antennas Self-adhesive feet to allow the device to be used as a desktop	Companion DVD	Quick Install Guide (printed) R&TTE Compliance Information (printed) User's Guide (on DVD) Safety notices

	Cable sets/mains unit/ other	Software	Documentation
	device Blind stops for SFP SD slot cover with screw 3-pole screw terminal bar for the power supply 2-pole screw terminal bar for relay Mounting bracket for wall mounting 1 screw pin set Blind stops for Ethernet interfaces		

2.3.6 General Product Features

The general product features cover performance features and the technical prerequisites for installation and operation of your device.

The features are summarised in the following table:

General Product Features bintec WI1040n and bintec WI2040n

Property	Value
Variants:	
bintec WI1040n	An internal wireless module, 3 external antenna (WLAN 1 Ant.1, WLAN 1 Ant.2, WLAN 1 Ant.3)
bintec WI2040n	Two internal wireless modules, 4 external antenna (WLAN 1 Ant.1, WLAN 1 Ant.2, WLAN 2 Ant.1, WLAN 2 Ant.2)

Dimensions and weights:

Equipment dimensions without cable	220 mm x 185 mm x 42 mm without feet
---------------------------------------	--------------------------------------

(W x L x H)

Property	Value
Weight	approx. 1,200 g (with WLAN modules)
LEDs	<p>bintec WI1040n 6 (1x Failure, 1x Status, 3x WLAN, 2x Ethernet, 1x SFP)</p> <p>bintec WI2040n 7 (1x Failure, 1x Status, 3x WLAN, 2x Ethernet, 1x SFP)</p>
Power consumption of the device	5-24 Watt, depending on extensions
Voltage supply	<p>Earth conductor/connection to earth 5-20W. All devices must be earthed.</p> <p>24 V \pm 30 % DC 1.1 A with reverse voltage protection, insulated 3-pole</p> <p>PoE on Ethernet 1 Class 0 (insulated) with max. two WLAN modules</p>
Protection against theft	Theft protection is available as an option
Temperature sensor	Temperature monitoring and software-controlled actions possible
Environmental requirements:	
Storage temperature	-40 °C to +85 °C
Operating temperature	-25 °C to +70 °C
Relative atmospheric humidity	10 % to 95 % (non-condensing)
Room classification	Operate only in dry rooms
Available interfaces:	
Serial interface V.24	Permanently installed, supports Baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 Baud
Ethernet IEEE 802.3 LAN	Permanently installed (twisted pair only), 10/100 mbps, autosensing, MDI/MDIX 2x 10/100 Base T/TX
Relay	An alarm using relay is possible in the event of overtemperature or error: potential-free working contact, 42 V AC 1

Property	Value
	A / 30 V DC 2 A
Optical interface	Module slot for optical interface 100 mbps LWL Single Mode LC or LWL Multimode LC - 1x 100 Base FX/SX with SFP module
Available sockets:	
Serial interface V.24	9-pin Sub-D connector
Relay switching contact N/O	42 V AC 1 A / 30 V DC 2 A potential-free, software configurable, switchable
Ethernet interface	RJ45 socket
Antennas:	
Antenna connection	RTNC socket
Transmit Power (WLAN)	max. 100 mW (20 dBm) EIRP
Standards & Guidelines	R&TTE Directive 1999/5/EC EN 60950-1 (IEC60950); EN 60950-22; EN 301489-1; EN301489-17; EN 55022; EN 300328-1; EN 301893; EN 302502; EN 50371 (Medical equipment EN 60601-1; EN 60601-2; EN 55011) E1-mark (vehicle licencing)
Buttons	Reset and reset to ex work settings possible with two buttons (1x config reset, 1x HW reset)

To ensure safe operation, the WI series devices have a connection to earth. The minimum cross-section of the earth lead should be 1.5 mm². The distance between the device and the connection to earth should be as short as possible.



Fig. 16: Connection to earth **bintec W1x040n**

2.3.7 Reset

If the configuration is incorrect or if your device cannot be accessed, you can reset the device to the ex works standard settings using the Reset button on the bottom of the device.

Practically all existing configuration data will then be ignored, only the current user passwords are retained. Configurations stored in the device are not deleted and can, if required, be reloaded when the device is re-booted.

For **bintec W11040n** and **bintec W12040n** proceed as follows:

- (1) Switch off your device.
- (2) Press the **Cfg** button on your device.
- (3) Keep the **Cfg** button on your device pressed down and switch the device back on.
- (4) Look at the LEDs:
 - Initially *Failure* LED flashes first.
 - Hold the **Cfg** button until the red LED goes out and the green *Status* LED starts to flash.

Proceed as follows if you also want to reset all the user passwords to the ex works state and delete stored configurations when resetting the device:

- (1) Set up a serial connection to your device. Reboot your device and monitor the boot sequence. Start the BOOTmonitor and choose the **(4) Delete Configuration** and follow the instructions.

or
- (2) Set up a serial connection to your device. First carry out the reset procedure described and enter `erase bootconfig` as **Login** at the login prompt in the command line. Leave the password empty

and press the Return key. The device runs through the boot sequence again.

You can now configure your device again as described from [Basic configuration](#) on page 47.



Note

If you delete the boot configuration using the **GUI**, all passwords will also be reset and the current boot configuration deleted. The next time, the device will boot with the standard ex works settings.

On devices of the **bintec Wlx040n** series there is a further button - the **HW** reset. After pressing briefly once, the device reboots.



Fig. 17: Underside of the **bintec Wlx040n** with the HW and Cfg reset buttons

2.4 bintec WI1065n and WI2065n

2.4.1 Setting up and connecting



Note

All you need for this are the cables and antennas supplied with the equipment.



Note

For the **bintec Wlx065n** series devices, a screw terminal bar is included as standard for power supply.

bintec WI1065n is an outdoor access point with a single radio module and three external antennas, **bintec WI 2065n** is equipped with two radio modules and four external antennas.

Devices of the industrial WLAN series with 802.11n support are fitted with a unit that heats the radio module to operating temperature when the temperature falls below 10 degrees Celsius. Once this temperature has been reached, the device continues with the start-up process. During the heating phase the red Failure LED flashes.

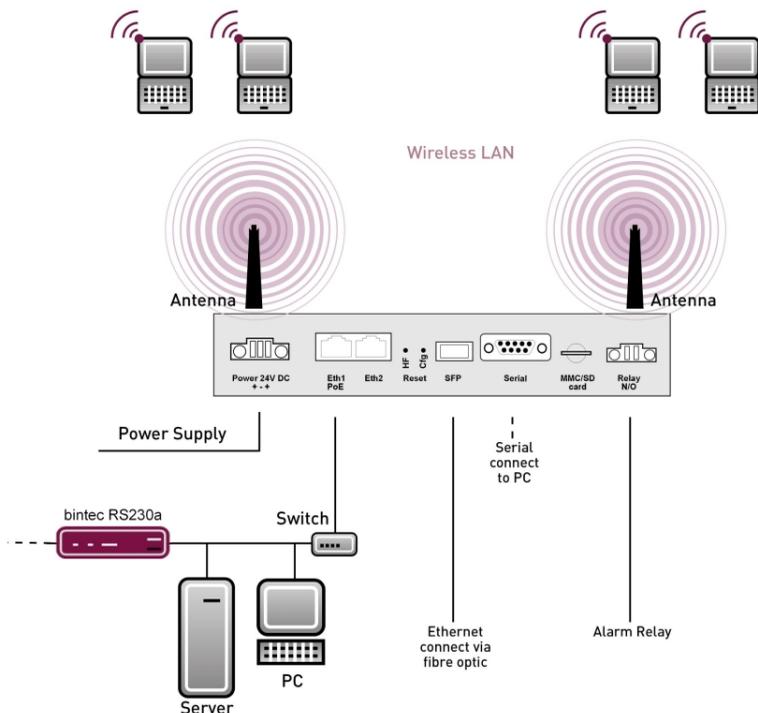


Fig. 18: Connection options **bintec Wlx065n**

When setting up and connecting, carry out the steps in the following sequence:

(1) Antennas

Screw the standard antennas supplied on to the connectors provided for this purpose.

(2) LAN

For the standard configuration of your device via Ethernet, connect port **ETH1** or **ETH2** of your device to your LAN using the Ethernet cable supplied. The device automatically detects whether it is connected to a switch or directly to a PC.

Use just one of the ports **ETH1** and **ETH2**, the second port is used to cascade a number of devices. If you use both Ethernet connections on the same switch, loops may be formed.

The standard patch cable (RJ45-RJ45) is symmetrical. It is therefore not possible to mix up the cable ends.

(3) Power connection

Connect the device to a mains socket.

Use the power cord supplied and insert it in the appropriate socket on your device. Now plug the power cord into a power socket (100–240 V). The status LEDs signal that your device is correctly connected to the power supply. Optionally, power can be supplied through a standard PoE injector (part number 5530000082).



Note

bintec Wlx065n series products are supplied without a mains unit. All devices must be earthed.



Note

To restrict power in the event of a fault, the 24 V DC electric circuit is to be protected with an external 2 A fuse on the installation side for **bintec Wlx065n**. The relay contact must also be protected externally with a 1-A fuse (AC) or 2-A fuse (DC).

**Note**

If the **bintec Wlx065n** is installed outdoors, the lines laid outside the building are to be categorized as TNV1 electric circuits in accordance with EN60950, as their SELV level can also be overridden by transient overvoltage (e.g. during storms) during operation in line with the regulations. When wiring the connections, it is therefore necessary to make sure that protective measures against overvoltage are carried out where the cable enters the building, to ensure that the limit values of a SELV electric circuit are maintained in the building.

You can set up further connections as required:

- Serial connection: For alternative configuration possibilities, connect the serial interface of your PC (**COM1** or **COM2**) to the serial interface of the gateway (**console**). However, configuration via the serial interface is not provided by default.

Installation

The access points can be either be used as tabletop units or can be wall mounted with hangers integrated into the housing. Optionally, they can be mounted with a top hat rail.

Wall-/ Ceillingmounting

To attach the device to the wall **bintec Wlx065n**), use the brackets on the back of the housing. Optionally, a wall mounting with theft protection (part number 5020591600) and pole brackets (part number 5020591700) are available.

**Warning**

Before drilling, make sure that there are no building installations where you are drilling. If gas, electricity, water or waste water lines are damaged, you may endanger your life or damage property.

- Screw the mount to the wall with the 2 screws.

- Hang the device in the mount with the screw nut but do not tighten it. Make sure the device connections are accessible.
- Protect the device against theft with the lock supplied.



Fig. 19: Wall mounting of the **bintec WIx065n** (standard design and with theft protection)

2.4.2 Connectors

All the connections are located on the underside of the device.

bintec WI1065n and **bintec WI2065n** have two Ethernet ports and a serial interface.

The connections are arranged as follows:

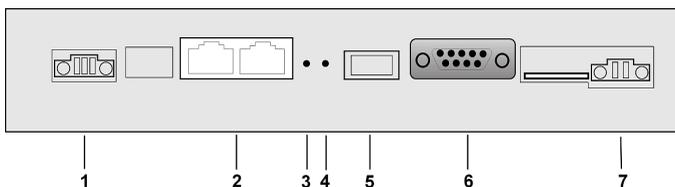


Fig. 20: Underside **bintec WI1065n** and **bintec WI2065n**

Underside of bintec WI1065n and bintec WI2065n

1	Power 24 V DC	Socket for power supply
2	Eth1 PoE /	10/100 Base-T Ethernet interfaces

	Eth2	
3	HW	Reset button performs restart
4	Cfg	Deletes the configuration
5	SFP	SFP slot for 100 Mbit/s fibre module (optional)
6	Serial	Serial interface RS232
7	Relay N/O	Alarm relay contact

2.4.3 Antenna connectors



Note

The three antenna for devices **bintec WI1065n** have 2 Transmit and 3 Receive functions in n operating mode MIMO 2T3R. WLAN 1 Ant. 1 and WLAN 1 Ant. send and receive, Ant. 3 only receives.

For devices **bintec WI2065n** only 2 antenna are used for each of the 2 wireless modules. These are both sending and receiving antenna. There is no third receiving antenna; this is MIMO 2T2R operating mode.

However gross rates of 300 Mbps are possible. The receiving sensitivity decreases slightly. Only 2 antenna connections are required to operate bridgelink with dual polarisation antenna.

Antenna should be $\Lambda/2$ or a multiple of this. In **bintec Wlx065n** the antenna are 55 mm apart.

2.4 GHz $\Lambda/2$ corresponds to 6.15 cm; 5 GHz $\Lambda/2$ corresponds to 2.72 cm.

Devices with 802.11n support can use up to 3 antenna per wireless module. The assignment of the existing 4 antenna connectors is shown in the following graphic:

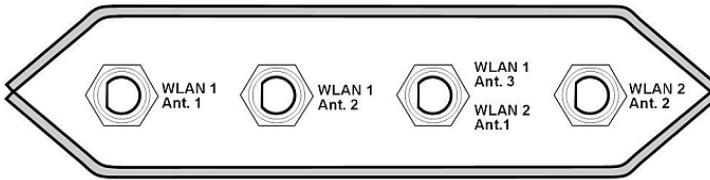


Fig. 21: Antenna configuration for **bintec WIx065n** devices

2.4.4 LEDs

The LEDs show the radio status, radio activity, Ethernet activity and LED states of your device. The LED states are indicated by combinations of the LEDs which are explained in detail in this chapter.

During the heating phase the red Failure LED flashes. The other LEDs then come on during booting (if the units are initialised).



Note

Note that the number of active WLAN LEDs depends on the number of existing wireless modules.

The LEDs on **bintec WI1065n** and **bintec WI2065n** are arranged as follows:

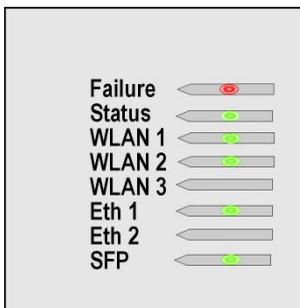


Fig. 22: LEDs of **bintec WI1065n** and **bintec WI2065n**

In operation mode, the LEDs display the following status information for your device:

LED status display bintec WI1065n and bintec WI2065n

LED	Status	Information
Failure (red)	on	After power-up and during booting or if an error occurs.
	flashes	During the heating phase.
	off	If the device is at the login prompt.
Status (green)	off	The power supply is not connected. If other LEDs are on, also Error.
	on (static)	Error
	on (flashing)	Ready
WLAN 1/2 (2x green) WLAN 3 without function	on (flashing slowly)	Free
	on (static)	At least one client is registered
	on (flickering)	At least one client is registered and there is data traffic
	on (flashing fast)	BLD (Broken Link Detection) active
	on (flashing fast)	5 GHz scan active
ETH 1/2 (2x green)	off	No cable or no Ethernet link
	on	Cable plugged in and link
	on (flickering)	Cable plugged in and link with data traffic
SFP (green)	off	No data traffic
	on	Data traffic via the SFP interface.
	on (flickering)	Cable plugged in and data traffic

2.4.5 Scope of supply

Your device is supplied with the following parts:

	Cable sets/mains unit/ other	Software	Documentation
bintec WI1065n	<p>Ethernet cable (RJ-45, STP)</p> <p>Serial cable (D-SUB9)</p> <p>3 external standard antennas</p> <p>Blind stops for SFP</p> <p>SD slot cover with screw</p> <p>3-pole screw terminal bar for the power supply</p> <p>2-pole screw terminal bar for relay</p> <p>1 screw pin set</p> <p>Blind stops for Ethernet interfaces</p> <p>4 threaded caps for antennas</p>	Companion DVD	<p>Quick Install Guide (printed)</p> <p>R&TTE Compliance Information (printed)</p> <p>User's Guide (on DVD)</p> <p>Safety notices</p>
bintec WI2065n	<p>Ethernet cable (RJ-45, STP)</p> <p>Serial cable (D-SUB9)</p> <p>4 external standard antennas</p> <p>Blind stops for SFP</p> <p>SD slot cover with screw</p> <p>3-pole screw terminal bar for the power supply</p> <p>2-pole screw terminal bar for relay</p> <p>1 screw pin set</p> <p>Blind stops for Ethernet interfaces</p>	Companion DVD	<p>Quick Install Guide (printed)</p> <p>R&TTE Compliance Information (printed)</p> <p>User's Guide (on DVD)</p> <p>Safety notices</p>

	Cable sets/mains unit/ other	Software	Documentation
	4 threaded caps for antennas One set of rubber seals for cable bushings		

2.4.6 General Product Features

The general product features cover performance features and the technical prerequisites for installation and operation of your device.

The features are summarised in the following table:

General Product Features bintec WI1065n and bintec WI2065n

Property	Value
Variants:	
bintec WI1065n	An internal wireless module, 3 external antenna (WLAN 1 Ant.1, WLAN 1 Ant.2, WLAN 1 Ant.3)
bintec WI2065n	Two internal wireless modules, 4 external antenna (WLAN 1 Ant.1, WLAN 1 Ant.2, WLAN 2 Ant.1, WLAN 2 Ant.2)
Dimensions and weights:	
Equipment dimensions without cable (W x L x H)	257 mm x 285 mm x 60 mm
Weight	approx. 1,900 g (with WLAN modules)
LEDs	7 (1x Failure, 1x Status, 2x WLAN, 2x Ethernet, 1x SFP)
Power consumption of the device	5-24 Watt, depending on extensions
Voltage supply	Earth conductor/connection to earth 5-20W. All devices must be earthed. 24 V \pm 30% DC 1,1 A with reverse voltage protection, insulated 3-pole PoE on Ethernet 1 Class 0 (insulated) with max. two WLAN modules

Property	Value
Protection against theft	Theft protection is available as an option
Temperature sensor	Temperature monitoring and software-controlled actions possible
Environmental requirements:	
Storage temperature	-40 °C to +85 °C
Operating temperature	-20 °C to +65 °C
Relative atmospheric humidity	10 % to 100 %
Available interfaces:	
Serial interface V.24	Permanently installed, supports Baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 Baud
Ethernet IEEE 802.3 LAN	Permanently installed (twisted pair only), 10/100 mbps, autosensing, MDI/MDIX 2x 10/100 Base T/TX
Relay	An alarm using relay is possible in the event of overtemperature or error: potential-free working contact, 42 V AC 1 A / 30 V DC 2 A
Optical interface	Module slot for optical interface 100 mbps LWL Single Mode LC or LWL Multimode LC - 1x 100 Base FX/SX with SFP module
Available sockets:	
Serial interface V.24	9-pin Sub-D connector
Relay switching contact N/O	42 V AC 1 A / 30 V DC 2 A potential-free, software configurable, switchable
Ethernet interface	RJ45 socket
Antennas:	
Antenna connection	RTNC socket
Transmit Power (WLAN)	max. 100 mW (20 dBm) EIRP
Standards & Guidelines	R&TTE Directive 1999/5/EC EN 60950-1 (IEC60950); EN 60950-22; EN 301489-1; EN301489-17; EN 55022; EN 300328-1; EN 301893; EN 302502; EN 50371
Buttons	Reset and reset to ex work settings possible with two buttons (1x config reset, 1x HW reset)

To ensure safe operation, the WI series devices have a connection to

earth. The minimum cross-section of the earth lead should be 1.5 mm². The distance between the device and the connection to earth should be as short as possible. For the **bintec Wlx065n** devices, the connection to earth is under the cover.

2.4.7 Reset

If the configuration is incorrect or if your device cannot be accessed, you can reset the device to the ex works standard settings using the Reset button on the bottom of the device.

Practically all existing configuration data will then be ignored, only the current user passwords are retained. Configurations stored in the device are not deleted and can, if required, be reloaded when the device is re-booted.

For **bintec WI1065n** and **bintec WI2065n** proceed as follows:

- (1) Switch off your device.
- (2) Press the **Cfg** button on your device.
- (3) Keep the **Cfg** button on your device pressed down and switch the device back on.
- (4) Look at the LEDs:
 - Initially *Failure* LED flashes first.
 - Hold the **Cfg** button until the red LED goes out and the green *Status* LED starts to flash.

Proceed as follows if you also want to reset all the user passwords to the ex works state and delete stored configurations when resetting the device:

- (1) Set up a serial connection to your device. Reboot your device and monitor the boot sequence. Start the BOOTmonitor and choose the **(4) Delete Configuration** and follow the instructions.

or
- (2) Set up a serial connection to your device. First carry out the reset procedure described and enter *erase bootconfig* as **Login** at the login prompt in the command line. Leave the password empty and press the Return key. The device runs through the boot sequence again.

You can now configure your device again as described from [Basic con-](#)

figuration on page 47.



Note

If you delete the boot configuration using the **GUI**, all passwords will also be reset and the current boot configuration deleted. The next time, the device will boot with the standard ex works settings.

2.5 Cleaning

You can clean your device easily. Use a damp cloth or antistatic cloth. Do not use solvents. Never use a dry cloth; the electrostatic charge could cause electronic faults. Make sure that no moisture can enter the device and cause damage.

2.6 Frequencies and channels

Different certification regulations apply around the world. ETSI standards generally apply (predominantly used in Europe). For operation in Europe, please read the notes in the R&TTE Compliance Information.

2.7 Support information

If you have any questions about your new product or are looking for additional information, the Teldat GmbH Support Centre can be reached Monday to Friday between the hours of 8 am and 5 pm. They can be contacted as follows:

Email	hotline@teldat.de
International Support Co-ordination	Telephone: +49 911 9673 1550 Fax: +49 911 9673 1599
End-customer Hotline	0900 1 38 65 93 (€1.10/min on land-lines in Germany)

For detailed information on our support services, contact www.teldat.de.

2.8 WEEE information



The waste container symbol with the »X« through it on the device indicates that the device must be disposed of separately from normal domestic waste at an appropriate waste disposal facility at the end of its useful service life.



Das auf dem Gerät befindliche Symbol mit dem durchgekreuzten Müllcontainer bedeutet, dass das Gerät am Ende der Nutzungsdauer bei den hierfür vorgesehenen Entsorgungsstellen getrennt vom normalen Hausmüll zu entsorgen ist.



Le symbole se trouvant sur l'appareil et qui représente un conteneur à ordures barré signifie que l'appareil, une fois que sa durée d'utilisation a expiré, doit être éliminé dans des poubelles spéciales prévues à cet effet, de manière séparée des ordures ménagères courantes.



Il simbolo raffigurante il bidone della spazzatura barrato riportato sull'apparecchiatura significa che alla fine della durata in vita dell'apparecchiatura questa dovrà essere smaltita separatamente dai rifiuti domestici nei punti di raccolta previsti a tale scopo.



El símbolo del contenedor con la cruz, que se encuentra en el aparato, significa que cuando el equipo haya llegado al final de su vida útil, deberá ser llevado a los centros de recogida previstos, y que su tratamiento debe estar separado del de los residuos urbanos.



Symbolen som sitter på apparaten med den korsade avfallstunnan betyder att apparaten när den tjänat ut ska kasseras och lämnas till de förutsetta sortergårdarna och skiljas från normalt hushållsavfall.



Tegnet på apparatet som viser en avfallcontainer med et kryss over, betyr at apparatet må kastet på hertil egnet avfallssted og ikke sammen med vanlig avfall fra husholdningen.



Το σύμβολο που βρίσκεται στην συσκευή με το σταυρωμένο κοντέινερ απορριμμάτων σημαίνει, ότι η συσκευή στο τέλος της διάρκειας χρήσης της πρέπει να διατεθεί ξεχωριστά από τα κανονικά απορρίμματα στα γι' αυτό τον σκοπό προβλεπόμενα σημεία διάθεσης.



Symbolet med gennemkrydset affaldsbeholder på apparatet betyder, at apparatet, når det ikke kan bruges længere, skal bortskaffes adskilt fra normalt husholdningsaffald på et af de dertil beregnede bortskaffelsessteder.



Znajdujący się na urządzeniu symbol przekreślonego pojemnika na śmieci oznacza, że po upływie żywotności urządzenia należy go oddać do odpowiedniej placówki utylizacyjnej i nie wyrzucać go do normalnych śmieci domowych.



Het doorgehaalde symbool van de afvalcontainer op het apparaat betekent dat het apparaat op het einde van zijn levensduur niet bij het normale huisvuil mag worden verwijderd. Het moet bij een erkend inzamelpunt worden ingeleverd.



O símbolo com um caixote de lixo riscado, que se encontra no aparelho, significa, que o aparelho no fim da sua vida útil deve ser eliminado separadamente do lixo doméstico nos centros de recolha adequados.

Chapter 3 Basic configuration

You can use the **Dime Manager** (IP address assignment) and the **GUI** (other configuration steps) for the basic configuration of your device.

The basic configuration is explained below step-by-step. A detailed on-line help system gives you extra support.

This user's guide assumes you have the following basic knowledge:

- Basic knowledge of network structure
- Knowledge of basic network terminology, such as server, client and IP address
- Basic knowledge of using Microsoft Windows operating systems

The **Companion DVD** also supplied includes all the tools that you need for the configuration and management of your device.

You can find other useful applications on the Internet at www.teldat.de.

3.1 Presettings

3.1.1 Preconfigured data

You have three ways of accessing your device in your network to perform configuration tasks:

(a) Dynamic IP address

In ex works state, your device is set to DHCP client mode, which means that when it is connected to the network, it is automatically assigned an IP address if a DHCP server is run. You can then access your device for configuration purposes using the IP address assigned by the DHCP server. For information on determining the dynamically assigned IP address, please see your DHCP server documentation.

(b) Fallback IP address

If you do not run a DHCP server, you can connect your device directly to your configuration PC and then reach it using the following,

predefined fallback IP configuration:

- **IP Address:** *192.168.0.252*
- **Netmask:** *255.255.255.0*

Make sure that the PC from which the configuration is performed has a suitable IP configuration (see [Configuring a PC](#) on page 52).

(c) Assigning a fixed IP address

You can use the **Dime Manager** to assign a new IP address and the required password to your device.



Note

Please note:

If your device has obtained an IP address dynamically from a DHCP server operated in your network for the basic configuration, the fallback IP address 192.168.0.252 is deleted automatically and your device will no longer function over this address.

However, if you have set up a connection to the device over the fallback IP address 192.168.0.252 or have assigned an IP address with the **Dime Manager** in the basic configuration, you will only be able to access your device over this IP address. The device will no longer obtain an IP configuration dynamically over DHCP.

Use the following access data to configure your device in an ex works state:

- **User Name:** *admin*
- **Password:** *admin*

**Note**

All Teldat devices are delivered with the same username and password. As long as the password remains unchanged, they are therefore not protected against unauthorised use. Make sure you change the passwords to prevent unauthorised access to your device!

How to change the passwords is described in [Modify system password](#) on page 56.

3.1.2 Software update

Your device contains the version of the system software available at the time of production. More recent versions may have since been released. You can easily perform an update with the **GUI** using the **Maintenance->Software & Configuration** menu.

For a description of the update procedure, see [Software Update](#) on page 59.

3.2 System requirements

For configuration, your PC must meet the following system requirements:

- Internet Explorer oder Mozilla Firefox
- Installed network card (Ethernet)
- DVD drive
- TCP/IP protocol installed (see [Configuring a PC](#) on page 52)

3.3 Preparation

To prepare for configuration, you need to...

- Obtain the data required for the basic configuration.
- Check whether the PC from which you want to perform the configuration meets the necessary requirements.

- install the **Dime Manager** software, which provides more tools for working with your device.

3.3.1 Gathering data

The main data for the basic configuration can be gathered quickly, as no information is required that needs in-depth network knowledge. If applicable, you can use the example values.

Before you start the configuration, you should gather the data for the following purposes:

- IP configuration (obligatory if your device is in the ex works state)



Note

bintec W1003n, bintec W2003n, bintec W2003n-ext and **bintec W2004n** do not support WDS, Bridge Links or Client Mode.

- Optional: Configuration of a wireless network connection in Access Point mode
- Optional: Configuration of client links in Client Links mode
- Optional: Configuration of bridge links in Bridge mode.

The following table shows examples of possible values for the necessary data. You can enter your personal data in the "Your values" column, so that you can refer to these values later when needed.

If you configure a new network, you can use the given example values for IP addresses and netmasks. In cases of doubt, ask your system administrator.

Basic configuration

For a basic configuration of your gateway, you need information that relates to your network environment:

IP configuration of the access point

Access data	Example value	Your values
IP address of your access point	192.168.0.252	

Access data	Example value	Your values
Netmask of your access point	<i>255.255.255.0</i>	

Access Point mode

If you run your device in Access Point mode, you can set up the required wireless networks. To do this, you need the following data:

Configuration of a wireless network

Access data	Example value	Your values
Network Name (SSID)	<i>default</i>	
Security mode	<i>WPA-PSK</i>	
Preshared key	<i>supersecret</i>	

Access Client mode

If you run your device in Access Client mode, you can set up the required client links. To do this, you need the following data:

IP configuration of the access client

Access data	Example value	Your values
Network Name (SSID)	<i>default</i>	
Security mode	<i>WPA-PSK</i>	
Preshared key	<i>supersecret</i>	

Bridge mode

If you run your device in Bridge mode, you can either configure connections to other bridges manually or use the bridge link autoconfiguration function. For the manual configuration of a bridge link, you need the following data:

Configuration of a bridge link

Access data	Example value	Your values
Preshared key	<i>bridgesecret</i>	
MAC address of remote bridge	<i>00:a0:f9:5a:42:53</i>	

To use the bridge link autoconfiguration function, proceed as described in the **WLAN Automatic Configuration of a Bridge Link Workshop**; for additional information, also read the user's guide chapter **Wireless LAN** under **WLAN->Bridge Links->New**.

3.3.2 Configuring a PC

In order to reach your device via the network and to be able to carry out configuration, the PC used for the configuration has to satisfy some prerequisites.

- Make sure that the TCP/IP protocol is installed on the PC.
- Select the suitable IP configuration for your configuration PC.

The PC via which you want to configure the IP address for your device must be in the same network as your device.

Checking the Windows TCP/IP protocol

Proceed as follows to check whether you have installed the protocol:

- (1) Click the Windows Start button and then **Settings -> Control Panel -> Network Connections** (Windows XP) or **Control Panel -> Network and Sharing Center-> Change Adapter Settings** (Windows 7).
- (2) Click on **LAN Connection**.
- (3) Click on **Properties** in the status window.
- (4) Look for the **Internet Protocol (TCP/IP)** entry in the list of network components.

Installing the Windows TCP/IP protocol

If you cannot find the **Internet Protocol (TCP/IP)** entry, install the TCP/IP protocol as follows:

- (1) First click **Properties**, then **Install** in the status window of the **LAN Connection**.
- (2) Select the **Protocol** entry.
- (3) Click **Add**.
- (4) Select **Internet Protocol (TCP/IP)** and click on **OK**.

- (5) Follow the on-screen instructions and restart your PC when you have finished.

Allocating PC IP address

Allocate an IP address to your PC as follows:

- (1) Select **Internet Protocol (TCP/IP)** and click **Properties**.
- (2) Choose **Use following IP address** and enter a suitable IP address, the matching netmask, your default gateway and your preferred DNS server.

If you run a DHCP server in your network, you can apply the default Windows setting **Obtain IP address automatically** and **Obtain DNS server address automatically**.

Your PC should now meet all the prerequisites for configuring your device.

3.4 IP configuration

In the ex works state, your device is configured in DHCP Client mode and therefore dynamically receives an IP address if you run a DHCP server in your network. If this is not the case, connect your device directly to the configuration PC and use the fallback IP address *192.168.0.252*.

Alternatively, you can assign your device the required fixed IP address by using the **Dime Manager**.

To do this, install the program from the DVD provided to your configuration PC.

Proceed as follows:

- (a) Place the DVD provided in the DVD drive of your configuration PC. The installation wizard should start automatically. If it does not, open the following file on the DVD using your file browser:
`starter.exe`.
- (b) Follow the instructions in the installation wizard.

Then carry out the following steps to configure an IP address for your device:

- (1) Start the **Dime Manager** from the Windows Start menu: **Start -> Programs -> Teldat-> Dime Manager**.
The following dialog box appears:

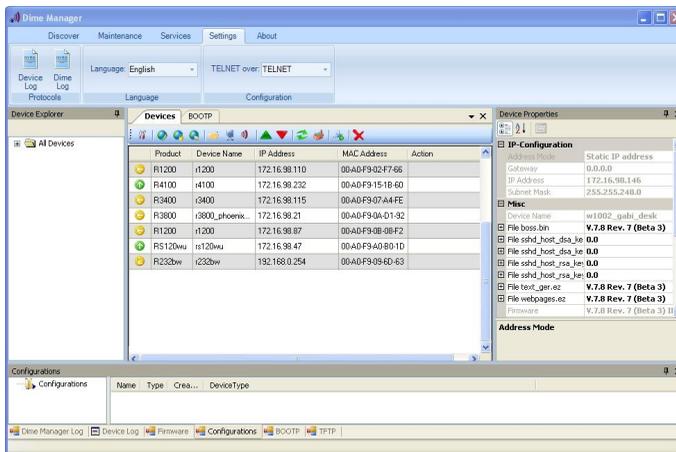


Fig. 24: **Dime Manager** initial screen

The **Dime Manager** detects the devices installed in the network.

- (2) In the list, double click the device you want to configure.
The following dialog box appears:



Fig. 25: IP address assignment with the **Dime Manager**

- (3) Enter the network parameters (**Device name, IP address, Net-**

mask and **Gateway**) and click on **OK**.



Note

The maximum length of the **Device name** parameter is 32 characters.

The **Device name** parameter may contain only the letters "a"- "z", "A"- "Z", the digitss "0"- "9", dash "-" and dot "." to avoid errors by other systems during interpretation of the **Device name**. The first character must be a letter, and the last character cannot be a dot "." or dash "-". A single character is not permitted as a name.

Your device can now be reached over the Ethernet with its IP address using a Web browser and can now be configured.

GUI Call up

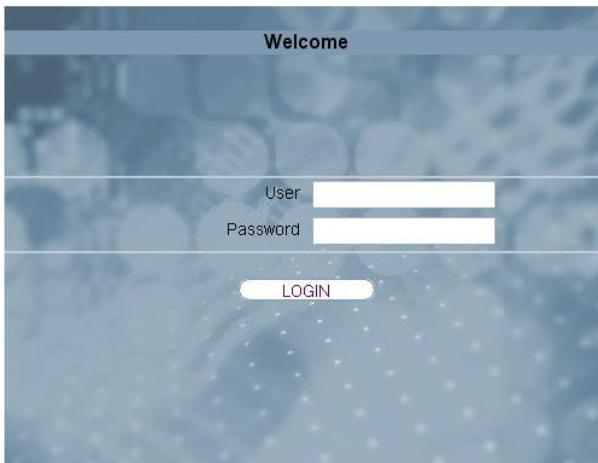


Fig. 26: **GUI Login**

Start the configuration interface as follows:

- (a) Enter the IP address of your device in the address line of your Web browser.

With DHCP server:

- the IP address that the DHCP server assigned to your device

Without DHCP server:

- With direct connection to the configuration PC: the fallback IP address `192.168.0.252`
- The fixed IP address assigned via the **Dime Manager**

Press the **Enter (Return) key**.

- (b) Enter `admin` in the **User** field and `admin` in the **Password** field.

3.5 Modify system password

All Teldat devices are delivered with the same username and password. As long as the password remains unchanged, they are therefore not protected against unauthorised use. Make sure you change the passwords to prevent unauthorised access to your device!

Proceed as follows:

- Go to the **System Management->Global Settings->Passwords** menu.
- Enter a new password for **System Admin Password**.
- Enter the new password again under **Confirm Admin Password**.
- Click **OK**.
- Store the configuration using the **Save configuration** button above the menu navigation.

Note the following rules on password use:

- The password must not be easy to guess. Names, car registration numbers, dates of birth, etc. should not be chosen as passwords.
- The password should contain at least one character that is not a letter (special character or number).
- The password should be at least 8 characters long.
- Change your password regularly, e.g. every 90 days.

3.6 Setting up a wireless network

Proceed as follows to use your device as an access point:

- (1) In **GUI** select the **Assistants->Wireless LAN** menu.
- (2) Follow the steps shown by the wizard. The wizard has its own on-line help, which offers all of the information you may require.
- (3) Store the configuration using the **Save configuration** button above the menu navigation.

Configuring the WLAN Adapter under Windows XP

After installing the drivers for your WLAN card, Windows XP set up a new connection in the network environment. Proceed as follows to configure the Wireless LAN connection:

- (1) Click on **Start -> Settings** and double-click on **Network Connections -> Wireless Network Connection**.
- (2) On the left-hand side, select **Change Advanced Settings**.
- (3) Go to the **Wireless networks** tab.
- (4) Click **Add**.

Proceed as follows:

- (1) Enter a **Network Name**, e.g. *Client-1*.
- (2) Set **Network Authentication** to *WPA2-PSK*.
- (3) Set **Data Encryption** to *AES*.
- (4) Under **Network Key** and **Confirm Network Key**, enter the configured preshared key.
- (5) Exit each menu with **OK**.



Note

Windows XP allows several menus to be modified. Depending on the configuration, the path to the wireless network connection you want to configure may be different to that described above.

Configuring the WLAN Adapter under Windows 7

A popup window informs you about all wireless networks within reach. All you have to do is to configure your connection.

- (1) First, click the WLAN icon in the system tray of the task bar. Now Windows 7 displays you all wireless networks within your reach.
- (2) Select the VSS of your device and click **Connect**.
- (3) In the opening window, enter the preshared key you have configured for your VSS and click OK.

3.7 Setting up a bridge link

If you run your device in Bridge mode, you must set up a bridge link.

Not available for **bintec W1003n**, **bintec W2003n**, **bintec W2003n-ext** and **bintec W2004n**.

Bridge link autoconfiguration

- (1) Go to **Wireless LAN->WLAN->Radio Settings->**.
- (2) In **Operation Mode** select *Bridge*.
- (3) Leave the default settings in all other fields.
- (4) Click **OK**.
- (5) Go to **Wireless LAN->WLAN->Bridge Links->New**.
- (6) Under **Preshared Key** enter *bridgesecret*, for example.
- (7) Leave the default settings in all other fields.
- (8) Click **OK**.
- (9) Configure a bridge link on the remote device in the same way.
- (10) On your local device, in the list **Wireless LAN->WLAN->Bridge Links**, click on the  icon.
- (11) On the menu **Wireless LAN->WLAN->Bridge Links->** which opens, click under **Action** on the *Scan* link.
- (12) After the scan, the results are listed. For the list entry you require, click the *Connect* link.
- (13) Store the configuration using the **Save configuration** button above the menu navigation.

To use the bridge link autoconfiguration function, please also read the **WLAN Automatic Configuration of a Bridge Link Workshop**; for additional information, also read the user's guide chapter **Wireless LAN** under **WLAN->Bridge Links->New**.

Manual configuration

- (1) Go to **Wireless LAN->WLAN->Radio Settings->**.
- (2) In **Operation Mode** select *Bridge*.
- (3) Leave the default settings in all other fields.
- (4) Click **OK**.
- (5) Go to **Wireless LAN->WLAN->Bridge Links->**.
- (6) Under **Preshared Key** enter *bridgesecret*, for example.
- (7) For **Remote MAC Address**, enter the MAC address of the bridge to which your bridge is to set up a connection, e.g.
00:a0:f9:5a:42:53.
- (8) Leave the default settings in all other fields.
- (9) Click **OK**.
- (10) Configure a bridge link on the remote device in the same way.
- (11) Store the configuration using the **Save configuration** button above the menu navigation.

Your device is ready for operation when you have completed the configuration.

The configuration of the device and its integration into your network are now completed.

3.8 Software Update

The range of functions of Teldat devices is continuously being extended. These extensions are made available to you by Teldat GmbH free of charge. Checking for new software versions and the installation of updates can be carried out easily with the **GUI**. An existing internet connection is needed for an automatic update.

Proceed as follows:

- (1) Go to the **Maintenance->Software & Configuration** menu.

- (2) Under **Action** select *Update System Software* and, under **Source Location** *Latest Software from Teldat Server*.
- (3) Confirm with **Go**.

Options

Currently Installed Software	
BOSS	V.9.1 Rev. 1 IPSec from 2012/03/23 00:00:00
System Logic	1.0
ADSL Logic	E.74.2.53
Software and Configuration Options	
Action	Update system software <input type="button" value="v"/>
Source Location	Current Software from Teldat Server <input type="button" value="v"/>

The device will now connect to the Teldat GmbH download server and check whether an updated version of the system software is available. If so, your device will be updated automatically. When installation of the new software is complete, you will be invited to restart the device.

**Caution**

After confirming with **Go**, the update cannot be aborted. If an error occurs during the update, do not re-start the device and contact support.