ENGLISH

Anybus® Wireless Bolt II™

STARTUP GUIDE

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Important User Information

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1. Preface

1.1. About This Document

This document describes how to install Anybus® Wireless Bolt II™.

For additional documentation and software downloads, FAQs, troubleshooting guides and technical support, please visit www.anybus.com/support.

1.2. Document Conventions

Safety Symbols

DANGER
Instructions that must be followed to avoid an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING
Instructions that must be followed to avoid a potential hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION
Instruction that must be followed to avoid a potential hazardous situation that, if not avoided, could result in minor or moderate injury.

IMPORTANT
Instruction that must be followed to avoid a risk of reduced functionality and/or damage to the equipment, or to avoid a network security risk.

Information Symbols

NOTE
Additional information which may facilitate installation and/or operation.

TIP
Helpful advice and suggestions.

1.3. Trademarks

Anybus® is a registered trademark and Wireless Bolt II™ is a trademark of HMS Networks AB.

All other trademarks are the property of their respective holders.

2. Safety

2.1. General Safety

CAUTION
This equipment emits RF energy in the ISM (Industrial, Scientific, Medical) band. Make sure that all medical devices used in proximity to this equipment meet appropriate susceptibility specifications for this type of RF energy.

CAUTION
This equipment contains parts that can be damaged by electrostatic discharge (ESD). Use ESD prevention measures to avoid damage.

CAUTION
If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

CAUTION
Connecting power with reverse polarity or using the wrong type of power supply may damage the equipment. Make sure that the power supply is connected correctly and of the recommended type.

CAUTION
This equipment is not intended for use in an environment where children are present. Keep out of reach of children.

2.2. Intended Use

The intended use of this equipment is as a communication interface and gateway.
The equipment receives and transmits data on various physical and wireless levels and connection types.

3. Preparation

3.1. Cabling

Have the following cables available:

- Ethernet cable for configuration
- Ethernet cable for connecting to network

> **NOTE**
> Both shielded and unshielded Ethernet cables may be used.

- Power cable or Power over Ethernet (PoE) power source.

3.2. Placement Considerations

For optimal reception, wireless devices require a zone between them clear of objects that could otherwise obstruct or reflect the signal.

To avoid signal interference, a minimum distance of 50 cm between the wireless devices should be observed.

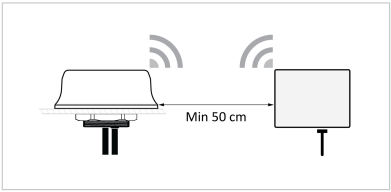
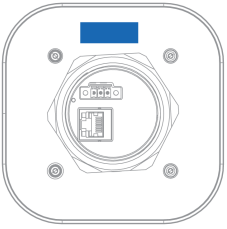


Figure 1. Required minimum distance between wireless devices

3.3. Support and Resources

For additional documentation and software downloads, FAQs, troubleshooting guides and technical support, please **scan the QR code to visit the Bolt II support web page**.



You can also visit www.anybus.com/support and enter the product article number to search for the Bolt II support web page. You find the **product article number** on the product cover.

3.4. HMS Software Applications

Download the software installation files and user documentation from www.anybus.com/support.

HMS IPconfig

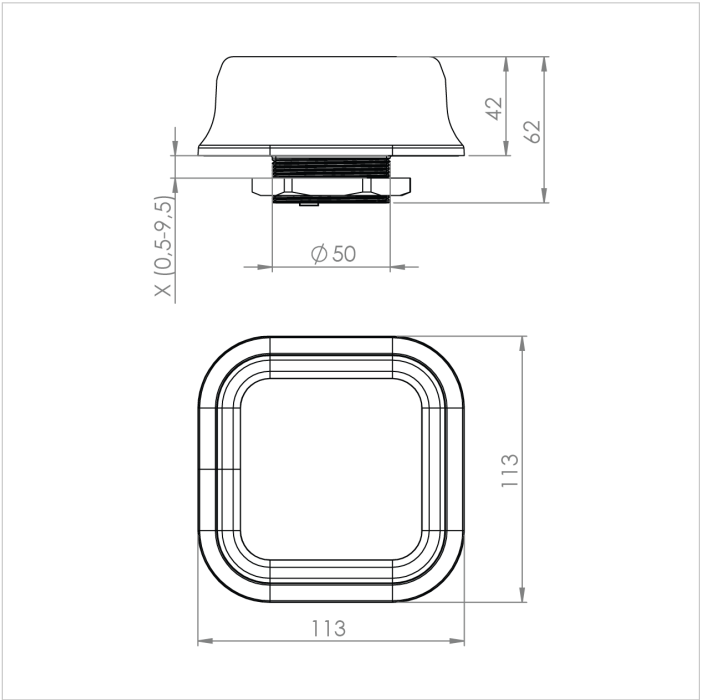
Use the software application HMS IPconfig and scan your network to discover the Bolt II IP address and to access the Bolt II built-in web interface.

NOTE

HMS IPconfig is only available for Windows.

4. Installation

4.1. Installation Drawing



All measurements are in mm.

Figure 2. Bolt II installation drawing

4.2. Surface Mounting

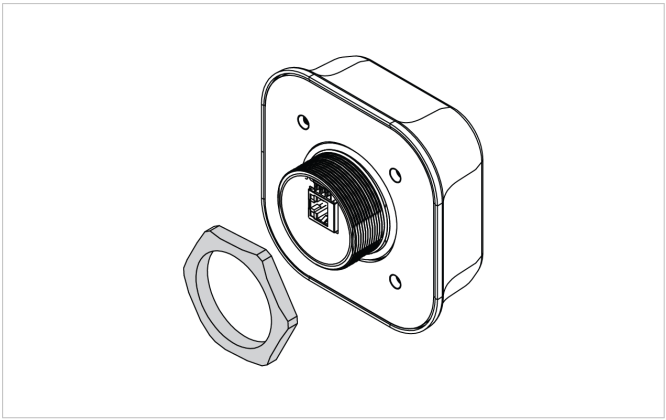
Before You Begin

Mounting Considerations

- Mount the Bolt II on a machine or cabinet
- Mounting hole diameter: M50 (50,5 mm)
- Bolt II lock nut tightening torque: 5 Nm ±10 %
- Ensure to use the included housing sealing ring and lock nut
- The top mounting surface, in contact with the sealing, must be:
  - flat with a finish equivalent to Ra 3.2 or finer.
  - cleaned and free from oils and greases.

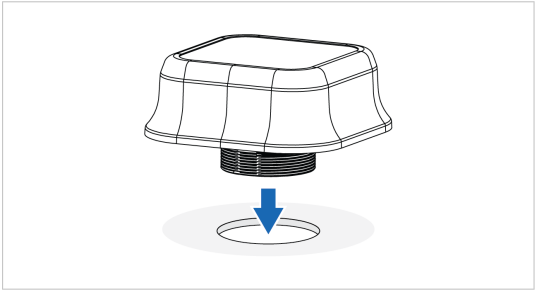
Mounting Procedure

1. Unscrew and remove the Bolt II lock nut.



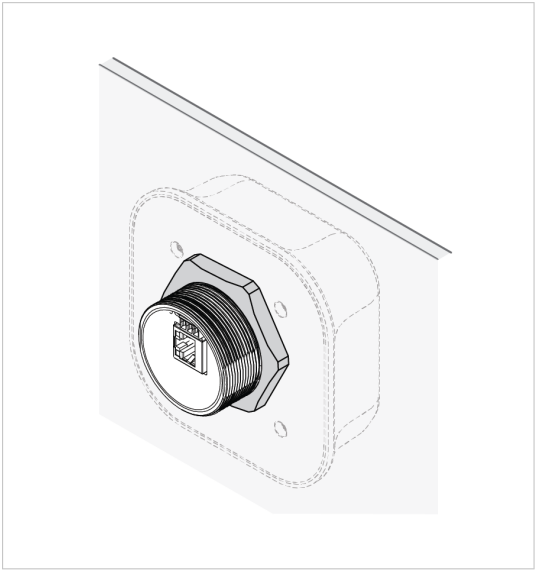
2. Place the Bolt II housing sealing ring in its groove.

3. In the mounting surface, drill a mounting hole with the size Ø M50 (50,5 mm).
4. Place the Bolt II in its mounting hole.



5. Screw the Bolt II lock nut into place and tighten it.
   Tightening torque: 5 Nm ±10 %

IMPORTANT
To keep the Bolt II sealed against dirt and moisture, make sure the housing sealing ring is properly seated in its groove before tightening the lock nut.



4.3. Connect to Power Over Ethernet (PoE)

Before You Begin

IMPORTANT
Connecting the Bolt II to PoE and DC power simultaneously may result in a current loop that could damage both the power sources and the Bolt II. Ensure to use only one of the power connections at a time.

NOTE
Both shielded and unshielded Ethernet cables may be used.

Procedure

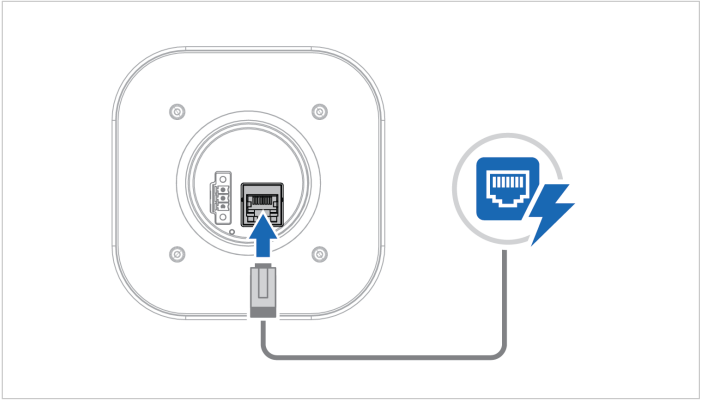


Figure 3. Connect to Power Over Ethernet (PoE)

Connect the Bolt II Ethernet port to Power Over Ethernet (PoE).

RJ45 Ethernet PoE Connector

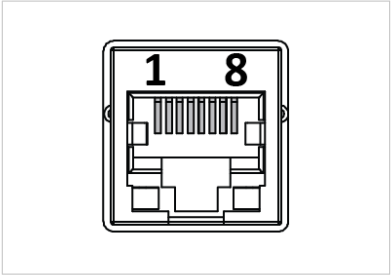


Table 1. RJ45 Ethernet PoE Connector pinning

Pin	Data	PoE	
1	TD+	A+	Positive power from alt. A PSE
2	TD-		
3	RD+	A-	Negative power from alt. A PSE (with pin 6)
4	N/A	B+	Positive power from alt. B PSE
5			
6	RD-	A-	Negative power from alt. A PSE (with pin 3)
7	N/A	B-	Negative power from alt. B PSE
8			
Housing	Shield	Functional Earth (FE), via 1 nF capacitor and 1 MΩ bleeder resistor	

4.4. Connect to Power and Ethernet

Before You Begin

CAUTION
Connecting power with reverse polarity or using the wrong type of power supply may damage the equipment. Make sure that the power supply is connected correctly and of the recommended type.

IMPORTANT
Connecting the Bolt II to PoE and DC power simultaneously may result in a current loop that could damage both the power sources and the Bolt II. Ensure to use only one of the power connections at a time.

IMPORTANT
When Bolt II is powered via the power connector, Functional Earth (FE) must be connected.

Power Supply Requirements

- Use insulated power supply 10-33 VDC, minimum 2 W.
- Use 0.25 - 1.5 mm^2 (24-16 AWG) cable for supply wiring.
- Use minimum 90 °C copper (Cu) wire only.

Ethernet Cable Requirement

If the Ethernet cables are to be exposed in an outdoor environment, transient protection must be provided.

Functional Earth (FE) Wire Screw Placement

When Bolt II is mounted on a sheet metal plate, connect Functional Earth (FE) to the plate near Bolt II.

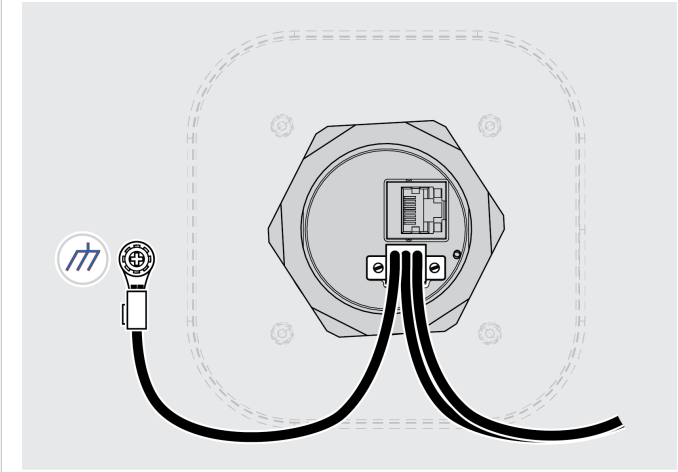


Figure 4. Functional earth wire screw placement, view from below

Procedure

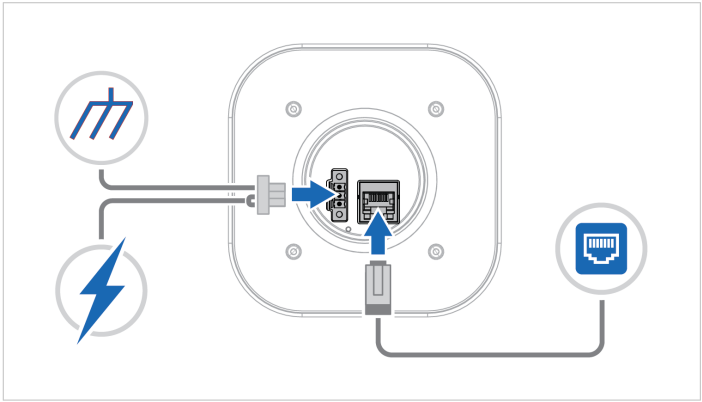


Figure 5. Connect Power, Functional Earth (FE) and Ethernet

Power Connector 3-Pin

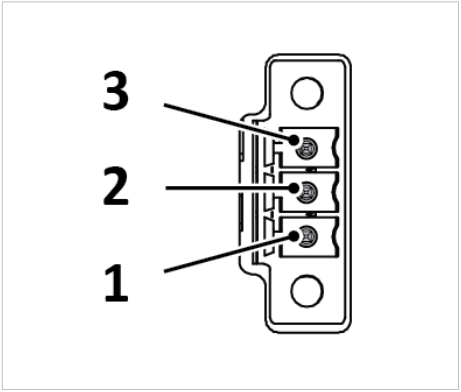


Table 2. Power connector, 3-pin terminal block

Pin	Function	
1	+	Recommended: 12–24 VDC Reverse voltage protection Min: 10 VDC Max: 33 VDC
2	-	
3	Functional Earth (FE)	

Connect Power, Functional Earth (FE) and Ethernet

1. Connect the Bolt II to Functional Earth (FE).
2. Connect the Bolt II to a power supply.
3. Connect the Bolt II to Ethernet network.

5. Configuration

5.1. Connect to Configure

Configure Using a Wired PC

The first time you configure the Bolt II or after a factory reset, connect it to a PC via an Ethernet cable.

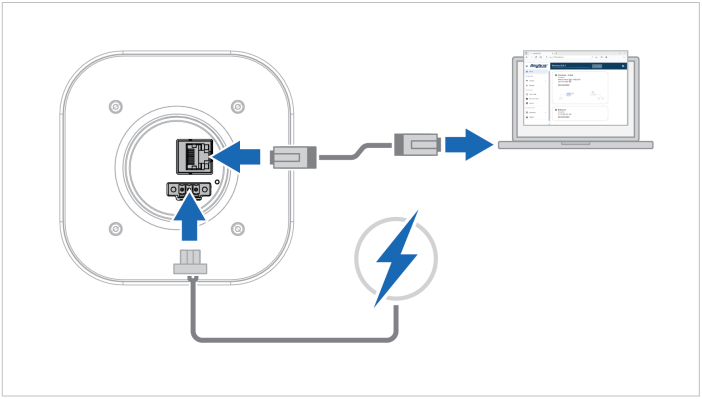


Figure 6. Configure the Bolt II using a PC

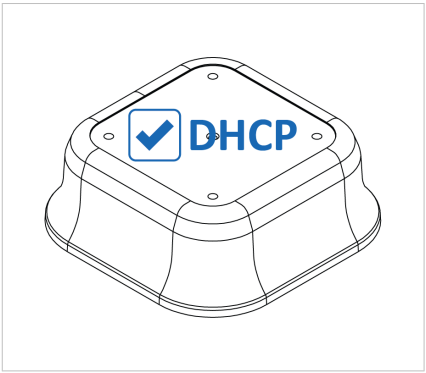
1. Connect the Bolt II Ethernet port to your PC.
2. Connect the Bolt II Power connector to a power supply.

5.2. Required IP Address Settings

To be able to access the Bolt II built-in web interface you may need to adjust the IP settings, choose one of the following methods.

NOTE
The Bolt II default IP address is 192.168.0.97 and the subnet mask is 255.255.255.0.

Option 1- To use DHCP Client



By default, **DHCP client** is enabled on the Bolt II. Bolt II assigns an IP address to the PC used to configure it.

If the **DHCP client** is disabled, you need to set a static IP address manually on the PC used to configure the Bolt II.

Option 2 - Set a Static IP Address on Your PC

NOTE
When you change to a static IP address on your PC, internet access is lost.

On the PC accessing the Bolt II built-in web interface, set a static IP address within the same IP address range as the Bolt II IP address.

Result

Now you can enter the Bolt II IP address in your web browser and search to access the built-in web interface login page.

5.3. Configure the Bolt II

Procedure

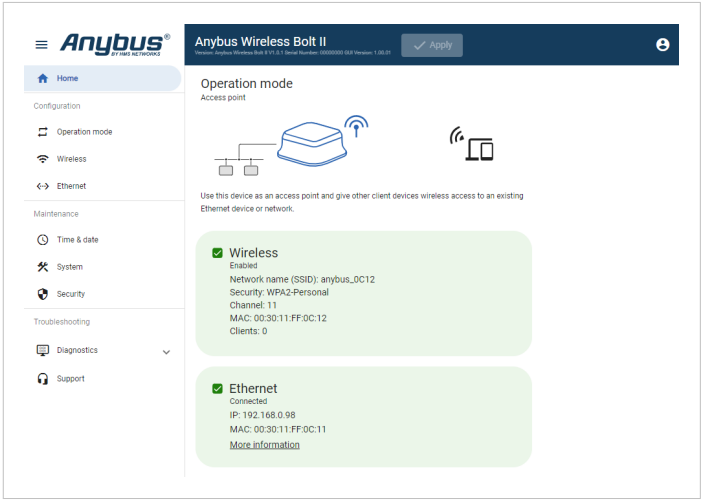


Figure 7. The Bolt II built-in web interface Home page

1. Open the Bolt II built-in web interface in HMS IPconfig or enter the Bolt II IP address in your web browser.
2. The built-in web interface takes you through the steps to configure the Bolt II.

Support and Resources

If you need more in-depth information about the configuration, please visit www.anybus.com/support and enter the product article number to search for the Bolt II support web page. You find the product article number on the product cover.

6. Technical Specifications

Model identification	AWB6BA
Communication connector	RJ45
Power connector	3-pole push-in spring connection
Power supply	Recommended: 12–24 VDC Reverse voltage protection Min: 10 VDC Max: 33 VDC Max power: 2.5 W
Power over Ethernet (PoE)	IEEE 802.3af/802.3at Type 1 Class 3 Typical: 1.45 W Max: 2.7 W Voltage range: 37-57 V
Power consumption	Typical: 60 mA @ 24 V Max: 110 mA @ 24 V
Antenna	MIMO 802.11 a/b/g/n and 802.11ac
Wireless LAN	2.4 GHz, channel 1-11 + 12-13 depending on regulatory domain scan 5 GHz Access Point: 36-48 (U-NII-1) 5 GHz Client: 100-116 + 132-140 and 120-128 (U-NII-1, U-NII-2, U-NII-2e) depending on regulatory domain scan RF output power: 18 dBm
Storage temperature	-40 to +85 °C
Operating temperature	-25 to +65 °C
Humidity	EN 600068-2-78: Damp heat, +40°C, 93% humidity for 4 days.
Vibration	See datasheet
Housing material	Plastic (see data sheet for details) Aluminum (see data sheet for details)
Protection class	Top (outside of host): IP66 / UL Type 4X Base (inside of host): IP30
Product weight	284 g
Dimensions	113 x 59 x 113 mm (W x H x D)
Mounting	M50 screw and nut. 50.5 mm hole needed.

Additional technical data and information related to the installation and use of this product can be found at www.anybus.com/support.

7. Ethernet LED Indication

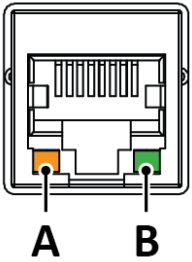


Figure 8. RJ45 LED indicators

LED A – LINK	Function
Off	No Ethernet link or no power
Yellow	Ethernet link established
Yellow, flashing	Ethernet traffic

LED B – ACTIVITY	Function
Off	No power
Green	Power on

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