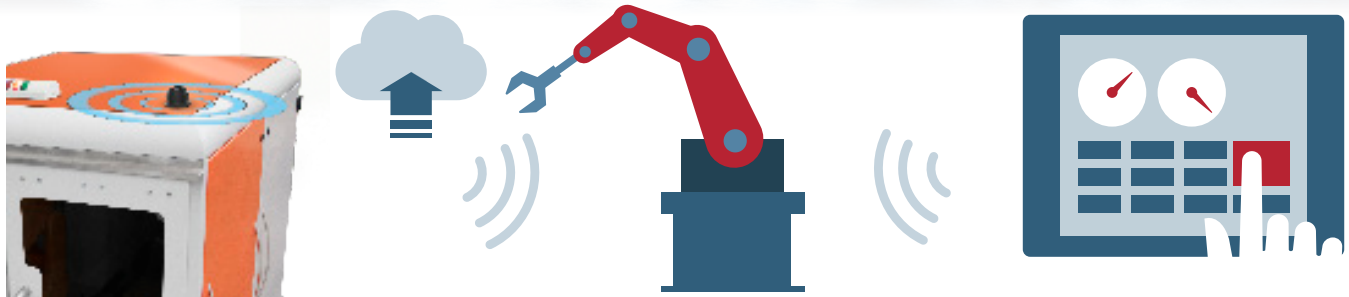


Anybus Wireless Bolt enables you to connect industrial machinery to a wireless network. It is mounted on a cabinet or a machine to enable wireless access.

Wireless transmission is made via Bluetooth or Wireless LAN technology. The wired connection is made using Ethernet.



### EXAMPLE USE CASE



The Wireless Bolt is typically used for configuration purposes. For example, you can bring your own device (BYOD) such as a tablet to a machine and use it as an HMI. Another typical use case is connecting a machine to a cloud service.

### Availability

Anybus Wireless Bolt Ethernet.  
Bluetooth access point or client.  
Wireless LAN 2.4/5 GHz access point or client.

#### AWB2000

Black top, 18-pole push spring connector

#### AWB2001

"Sunbolt" White top 18-pole push spring connector

#### AWB2030

Black top, RJ45 connector and PoE (Power over Ethernet)

#### AWB2031

"Sunbolt" White top RJ45 connector and PoE (Power over Ethernet)

### Accessories

#### 024703

Bolt cable kit. Bolt connector with Ethernet cable (RJ45 male) and power supply (World) with cable.  
Both cables are 150cm. (for AWB2000/ AWB2001 only)

#### 024704

Adapter cable, Bolt 18-pin to female Ethernet RJ45, 20cm. (for AWB2000/ AWB2001 only)

#### AWB4005

PoE Injector, 100-240VAC

#### AWB4006

PoE Injector, 12-57VDC



HMS provides a full 3 year product guarantee

### Use your laptop, phone or tablet instead of an HMI

Connect a Wireless Bolt to your machine and get access to it via a laptop, tablet or smartphone. BYOD (Bring Your Own Device) means that you no longer need an expensive HMI.

### Multipoint or point-to-point

Anybus Wireless Bolt is often used as an access point for several Wireless LAN/Bluetooth nodes, but it can also be used as an Ethernet cable replacement (point-to-point communication, or multi-point communication with up to 8 nodes).

### Features and benefits

- Range up to 100 meters.
- Rugged design with IP67-classed housing.
- Easy configuration via built-in web configuration pages.
- Mounted by making an M50 hole (50.5 mm) in the host cabinet/machine. The bottom part of the Bolt goes inside the cabinet and the top part is located on the outside.
- All-in-one package: Connector, communication hardware and integrated antenna in the same unit.
- Connects to your machine via Ethernet.
- Simultaneous operation of Bluetooth and Wireless LAN allowing for bridging between the two.
- PoE (Power over Ethernet) for RJ45-version.
- Available with white top "Sunbolt" enabling 30% higher surrounding temperature in °C compared to black in direct sunlight.
- Operation with Wireless LAN, Bluetooth classic and Bluetooth Low Energy.

### Which wireless standard?

#### Use WLAN (aka WiFi) if:

- Interaction with other devices is needed, e.g. Bolt/AWB II to tablet/PC/ phone or WLAN infrastructure.
- WLAN channel frequency planning is possible.
- Higher data throughput speed is necessary.
- Larger file transfers are expected.

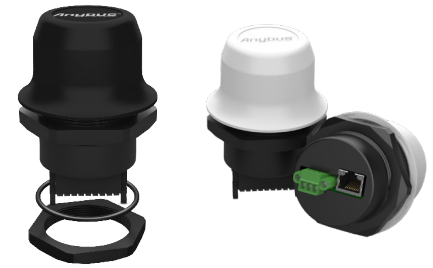
#### Use Bluetooth if:

- The wireless link has Anybus products in both ends, e.g. Bolt to Bolt, AWB II to AWB II or Bolt to AWB II.
- A robust and reliable link without interruptions is important e.g. in an industrial environment with lots of interference, and maybe has been proven not to work well using WLAN.
- A Profinet or Ethernet/IP I/O cycle time of 64ms or higher is acceptable.
- The data throughput speed need is on the lower side.

## TECHNICAL SPECIFICATIONS

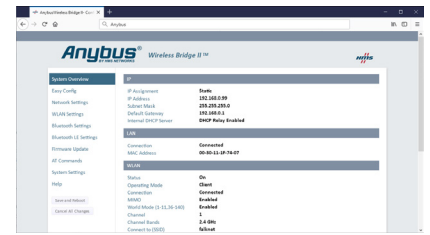


Type of wired interface	Ethernet			
Order code	AWB2000	AWB2001	AWB2030	AWB2031
Color	Black	White top and black base	Black	White top and black base
Connector	Included plug connector (2x9p; 3.5mm, Phoenix DFMC 1.5/9-ST-3.5, push-in spring connection).		RJ45 Ethernet/PoE, 3 Pole screw connector for power	
Range	100 meters free line of sight			
Antenna	One built-in antenna 2.4/5GHz			
Operating temperature	Shadow black and white: -40 to +65 °C, Direct sunlight: Black -40 to +45 °C, White -40 to +65 °C (Storage temperature: -40 to +85 °C)			
Weight	81 g		84 g	
Housing material	Top: Valox 357X(f1) PBT/PC. Suitable for outdoor use with respect to exposure to ultraviolet light, water exposure and immersion in accordance with UL 746C. Bottom: Celanex: XFR 6840 GF15. PBT glass reinforced plastic.			
IP protection class	IP67 and UL NEMA 4X for top (outside the host), IP21 for bottom (inside the host).			
Dimensions	Diameter: 68 mm. Height: 75 mm (95 mm including connector). Outside height: 41 mm.		Diameter: 68 mm. Height: 75 mm without PS-connector, 84 mm incl. PS-connector. Outside height: 41 mm.	
Mounting	M50 screw and nut (50.5 mm hole needed).			
Power	9-30 VDC (-5% +20%), Cranking 12V (ISO 7637-2:2011 pulse 4). Reverse polarity protection. (Consumption: 0.7W idle, 1.7W max.)		19-36 VDC, PoE (Power over Ethernet) DTE Type1 according to IEEE 802.3af. (Consumption: 0.7W idle, 1.7W max.)	
Configuration	Three different methods: 1. Accessing the built-in web pages in the product 2. Sending AT-commands via Telnet/Raw TCP 3. Using Easy Config modes			
Vibration compatibility:	Sinosoidal vibration test according to IEC 60068-2-6:2007 and with extra severities; Number of axes: 3 mutually perpendicular (X:Y:Z), Duration: 10 sweep cycles in each axes, Velocity: 1 oct/min, Mode: in operation, Frequency: 5-500 Hz, Displacement ±3.5 mm, Acceleration: 2g. Shock test according to IEC 60068-2-27:2008 and with extra severities; Wave shape: half sine, Number of shocks: ±3 in each axes, Mode: In operation, Axes ± X,Y,Z, Acceleration: 30g, Duration: 11 ms.			
Humidity compatibility:	EN 60068-2-78: Damp heat, +40°C, 93% humidity for 4 days.			



### Mounting

The Anybus Wireless Bolt is mounted into a 50.5 mm (M50) hole in the host device. The top ("helmet") goes on the outside and provides an IP67 exterior. The bottom is located inside the machine or cabinet (IP21).



### Configuration

You can configure the Anybus Wireless Bolt by accessing the built-in web pages in the product. You can also send AT commands or use Easy Config modes.



### Bolt Cable Kit

Bolt connector with Ethernet cable (RJ45 male) and power supply (World) with cable. Both cables are 150cm. Order code: 024703 (AWB2000 only)



### Order a Starter Kit!

Bolt 18-pin: 2 x Wireless Bolts 18-pin (AWB2000), 2 x Power Supply (world), cabling, Quick Start Guide. Order code: AWB2300  
Bolt RJ45: 2 x Wireless Bolts RJ45 (AWB2030), 2 x Power Supply (world), power cables, Quick Start Guide. Order code: AWB2330

## COMMUNICATION WITH HOST DEVICE

Digital input	Usage: To control roaming between Bluetooth access points. (max 3 m signal cable).	None
Ethernet	10/100BASE-T with automatic MDI/MDIX auto cross-over detection. Supported Ethernet protocols: IP, TCP, UDP, HTTP, LLDP, ARP, DHCP Client/Server, DNS support. PROFINET IO, EtherNet/IP, Modbus-TCP.	

## WIRELESS STANDARDS

Wireless LAN	<p><b>Wireless standards:</b> WLAN 802.11 a, b, g, n, d, r (fast roaming).  <b>Operation modes:</b> Access point or Client  <b>WiFi channels:</b> Client: Supported channels are 1-11 for 2.4 GHz and 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140 for 5 GHz. The following channels can also be activated depending on Regulatory Domain Scan (IEEE802.11d): 12, 13, 120, 124, 128, 149, 153, 157, 161, 165.  Access Point: Supported channels are 1-11 for 2.4 GHz and 36, 40, 44, 48 for 5 GHz.  Note regarding 5GHz: Limited coverage in specific directions.  <b>RF output power:</b> 13.75 dBm  <b>Max number of slaves for access point:</b> 7  <b>Power consumption:</b> 54mA@24VDC  <b>Net data throughput:</b> 20 Mbps. Link speed: max 65 Mbps (802.11n SISO)</p>	
Classic Bluetooth	<p><b>Wireless standards (profiles):</b> PANU &amp; NAP  <b>Operation modes:</b> Access point or Client  <b>RF output power:</b> 9.75 dBm  <b>Max number of slaves for access point:</b> 7  <b>Power consumption:</b> 36 mA@24VDC  <b>Net data throughput:</b> ~1 Mbps  <b>Bluetooth version support:</b> Classic Bluetooth v2.1  <b>Security:</b> Authentication &amp; Authorization, Encryption &amp; Data Protection, Privacy &amp; Confidentiality, NIST Compliant, FIPS Approved</p>	
Bluetooth Low Energy	<p><b>Wireless standards (profiles):</b> GATT  <b>Operation modes:</b> Central or Peripheral (pending)  <b>RF output power:</b> 5.75 dBm  <b>Max number of simultaneous Peripheral connections:</b> 7  Max number of Peripherals is virtually unlimited by multiplexing  <b>Power consumption:</b> 36 mA@24VDC  <b>Net data throughput:</b> ~200 kbps  <b>Bluetooth version support:</b> Bluetooth 4.0 dual-mode  <b>Security:</b> AES-CCM cryptography</p>	

## CERTIFICATIONS

Europe	ATEX Category 3, zone 2 according to EN60079-15, product marking: EX II 3 G nA IIC T4 Gc. CE, 2014/53/EU Radio Equipment Directive (RED)	ATEX Category 3, zone 2 according to EN60079-15, product marking: EX II 3 G nA IIC T4 Gc. CE, 2014/53/EU Radio Equipment Directive (RED)
U.S.	FCC 47 CFR part 15, subpart B. UL: Ind. Cont. Eq. also Listed Ind. Cont. Eq. for Haz. Loc. CL1, DIV 2, GP A,B,C,D, T4. UL file: E203225	FCC 47 CFR part 15, subpart B. UL: Ind. Cont. Eq. also Listed Ind. Cont. Eq. for Haz. Loc. CL1, DIV 2, GP A,B,C,D, T4. UL file: E203225
Canada	ICES-003	ICES-003
Japan	MIC	MIC
Other countries	Argentina, Australia, Brazil, Colombia, Turkey, Malaysia, India Pending: Chile	Turkey, Brazil, India

Anybus® is a registered trademark of HMS Industrial Networks AB, Sweden, USA, Germany and other countries. Other marks and words belong to their respective companies.

All other product or service names mentioned in this document are trademarks of their respective companies.

Part No: MMA434 Version 25 01/2020 - © HMS Industrial Networks - All rights reserved - HMS reserves the right to make modifications without prior notice.

