



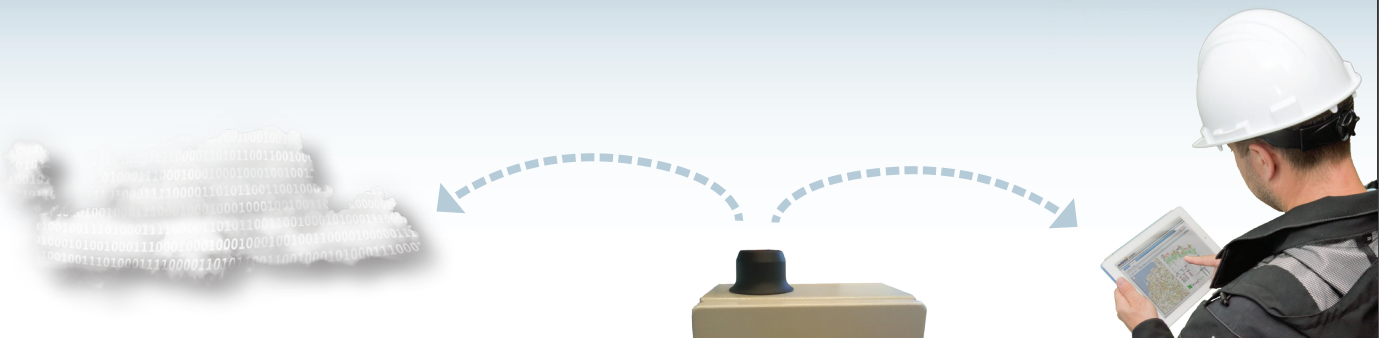
# Wireless Bolt™

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

Wireless transmission is made via Bluetooth or WLAN technology. The Wireless Bolt can connect devices using serial, CAN or 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

#### Three versions for:

- Ethernet
- Serial (RS-232/485) and Ethernet
- CAN and Ethernet

#### All three versions can use:

- WLAN 2.4 GHz/5 GHz (Access point or client)
- Bluetooth (Access point or client)
- Bluetooth Low Energy (central or peripheral)

### Serial, CAN or industrial Ethernet

On the wired side, the Anybus Wireless Bolt can communicate with devices on serial (RS-232/485), CAN or Ethernet. Regardless of communication method, you have the same connector (2x9p Plug Connector) for both power and communication.

### Ideal for BYOD

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

### Features and benefits

- Range up to 100 meters.
- Rugged design with IP67-classed housing.
- 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.
- Unique method to handle interference disturbances without consequences to the Bluetooth conformity or the interoperability with other devices.
- All-in-one package: Connector, communication hardware and integrated antenna in the same unit.
- Uses the ARM mbed 3.0 IoT Device Platform.
- Simultaneous operation of Bluetooth and WLAN allowing for bridging between the two.

### Which wireless standard?

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

- High data throughput.
- Wireless access point.




#### Use Bluetooth if you need:

- Reliable and noise immune wireless link (Bluetooth switches between different frequencies).
- To build IoT applications with connectivity to all major operating systems.
- Low energy consumption (Bluetooth Low Energy).



HMS provides a full 3 year product guarantee

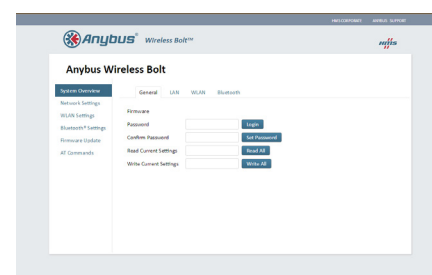


TECHNICAL SPECIFICATIONS			
Type of wired interface	Ethernet	Serial RS-232/485 and Ethernet	CAN and Ethernet
Order code	AWB2000	AWB2010	AWB2020
Range	100 meters		
Antenna	Built-in		
Operating temperature	-40 to +65 °C		
Storage temperature	-40 to +85 °C		
Weight	81 g		
Housing	Plastic (PBT glass-reinforced/PC-ABS)		
IP class	IP67 for top (outside the host), IP21 for bottom (inside the host).		
Dimensions	Diameter: 70 mm. Height: 70 mm (95 mm including connector). Outside height: 41 mm.		
Mounting	M50 screw and nut (50.5 mm hole needed).		
Connector	Included plug connector (2x9p; 3.5mm, Phoenix DFMC 1.5/9-ST-3.5, push-in spring connection).		
Power	9-30 VDC (-5% +20%), Cranking 12V (ISO 7637-2:2011 pulse 4). Reverse polarity protection. (Consumption: 0.7W idle, 1.7W max.)		
Configuration	Three different methods: <ul style="list-style-type: none"> <li>• Accessing the built-in web pages in the product</li> <li>• Sending AT commands</li> <li>• Using Easy Config modes</li> </ul>		
Vibration compatibility:	Sinusoidal 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 axis, Velocity: 1 oct/min, Mode: in operation, Frequency: 5-50 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 axis, Mode: In operation, Axes ± X,Y,Z, Acceleration: 30 m/s <sup>2</sup> , Duration: 11 ms.		
Humidity compatibility:	EN 600068-2-78: Damp heat, +40°C, 93% humidity for 4 days.		
COMMUNICATION WITH HOST DEVICE			
Serial	-	Isolated RS-232/485 (max baud rate 1Mbps)	-
CAN	-	-	Isolated CAN (max baud rate 1Mbps)
Digital input	Supported by all three variants (max 3 m signal cable). Free configurable, for example to control roaming between access points.		
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. (SNMP user management and access control in pending release.)		
WIRELESS STANDARDS (SUPPORTED BY ALL THREE VARIANTS)			
WLAN	<b>Wireless standards:</b> WLAN 802.11 a, b, g, d, e, i, h (n in pending release) <b>Operation modes:</b> Access point or Client <b>WiFi channels:</b> 2.4 GHz, 1-11, 5 GHz: 36-48 (U-NII Band 1,2,2e and 3) <b>RF output power:</b> 16 dBm <b>Max number of slaves for access point:</b> 7 <b>Power consumption:</b> 54mA@24VDC <b>Net data throughput:</b> >20 Mbps <b>Security:</b> WEP 64/128, WPA, WPA-PSK and WPA2, TKIP and AES/CCMP, LEAP, PEAP.		
Bluetooth	<b>Wireless standards (profiles):</b> PANU & NAP <b>Operation modes:</b> Access point or Client <b>RF output power:</b> 10 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> v4.0 <b>Security:</b> Authentication & Authorization, Encryption & Data Protection, Privacy & Confidentiality, NIST Compliant, FIPS Approved		
Bluetooth Low Energy (Pending release)	<b>Wireless standards (profiles):</b> GATT <b>Operation modes:</b> Central or Peripheral <b>RF output power:</b> 7 dBm <b>Max number of slaves for Central:</b> 10 <b>Power consumption:</b> 36 mA@24VDC <b>Net data throughput:</b> ~200 kbps <b>Bluetooth version support:</b> v4.0 <b>Security:</b> AES-CCM cryptography		
CERTIFICATIONS			
Europe	Radio Equipment Directive (RED) 2014/53/EU		
U.S.	FCC 47 CFR part 15, subpart B		
Canada	ICES-003		
Japan	MIC (pending, pre-certified radio module)		
Taiwan	NCC (pending, pre-certified radio module)		
South Korea (pending)	KCC (pending, pre-certified radio module)		
More certifications available on request			



#### 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.



#### Order a Starter Kit!

Includes: Two Wireless Bolts, Power Supply (world), cabling, Quick Start Guide.  
Part number: AWB2300