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 150 cm. (for AWB2000/ AWB2001 only)
024704
Adapter cable, Bolt 18-pin to female Ethernet RJ45 , 20 cm. (for AWB2000/ AWB2001 only)
AWB4005
PoE Injector, 100-240VAC
AWB4006
PoE Injector, 12-57VDC

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.

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.

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.

Patent pending.
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Type of wired interface</th>
<th>Ethernet</th>
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<tbody>
<tr>
<td>Order code</td>
<td>AWS2000</td>
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<tr>
<td>AWS2001</td>
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<td>AWS2030</td>
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<td>AWS2031</td>
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#### Color
- Black
- White top and black base

#### Connector
- Included plug connector (2x9p. 3.5mm, Phoenix DFMC 1.5/9.5/7.5, 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 2.4GHz

#### 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°C to +85°C)

#### Weight
- 81 g
- 84 g

#### Housing material
- Top: Valox 357X(1)f3 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.

#### Dimensions
- Diameter: 68 mm. Height: 75 mm (95 mm including connector). Outside height: 41 mm.

#### Mounting
- M50 screw and nut (50.5 mm hole needed)

#### Power
- 9-36 VDC (1.9% ±20%), Cranking 12V (ISO 7637-2:2011 pulse 4). Reverse polarity protection. (Consumption: 0.7W idle, 1.7W max.)

#### Configuration

#### Vibration compatibility:
- Sinusoidal vibration test according to IEC 60668-2-6:2007 and with extra severities, Number of axes: 3 mutually perpendicular (X/Y/Z), Duration: 10 sweep cycles in each axes, Velocity: 1 cm/s/min, Mode: in operation, Frequency: 5-500 Hz, Displacement ±3.5 mm, Acceleration: ±2g.
- Shock test according to IEC 60668-2-7:2008 and with extra severities, Wave shape: half sine, Number of shocks: ±3 in each axes, Mode: in operation, Axes ±X/Y/Z, Acceleration: ±3g, Duration: 11 ms.

#### Humidity compatibility:
- EN 60668-2-7B: Damp heat, +40°C, 93% humidity for 4 days.

### COMMUNICATION WITH HOST DEVICE

#### Digital input
- Usage: To control roaming between Bluetooth access points. (max 3 signal cable).

#### 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 standards:
- Wireless LAN: 802.11 b, g, n, d, r (fast roaming).

#### Operation modes:
- Access point or Client
- WiFi channels: 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, 52 for 5 GHz.
- Note regarding 5GHz: Limited coverage in specific directions.
- RF output power: 13.75 dBm
- Max number of slaves for access point: 7
- Power consumption: 54mA@24VOC
- Net data throughput: 20 Mbps. Link speed: max 65 Mbps (802.11n 8020)

#### Classic Bluetooth
- Wireless standards (profiles): PANU & NAP
- Operation modes: Access point or Client
- RF output power: 9.75 dBm
- Max number of slaves for access point: 7
- Power consumption: 36 mA@24VOC
- Net data throughput: ~1 Mbps
- Bluetooth version support: Classic Bluetooth v2.1

#### Bluetooth Low Energy
- Wireless standards (profiles): GATT
- Operation modes: Central or Peripheral (pending)
- RF output power: 5.75 dBm
- Max number of simultaneous Peripheral connections: 7
- Power consumption: 36 mA@24VOC
- Net data throughput: ~200 kbps
- Bluetooth version support: Bluetooth 4.0 dual-mode
- Security: AES-128 cipher

### CERTIFICATIONS

#### Europe
- U.S.
- Canada
  - ICES-003
- Japan
  - MIC
- Other countries
  - Argentina, Australia, Brazil, Colombia, Turkey, Malaysia, India

### Bolt Cable Kit
- Bolt connector with Ethernet cable (RJ45 male) and power supply (World) with cable. Both cables are 150cm.

### 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

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