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.

**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.

**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).

**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.

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

**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.

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**Patent pending.**
### TECHNICAL SPECIFICATIONS

**Type of wired interface**
- Ethernet

**Order code**
- AWB2000
- AWB2001
- AWB2030
- AWB2031

**Color**
- Black
- White top and black base

**Connector**
- Included plug connector (2x9p, 3.5mm, Phoenix DFMC 1.5/9-37.3.5, 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. Dual-band 2.4GHz and 5GHz.

**Operating temperature**
- Shadow black and white: -40 to +65 °C, Direct sunlight: Black -40 to +45 °C, White -40 to +65 °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.

**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**
- 9-36 VDC (1.5%/20%), Cranking 12V (ISO 7637-2:2011 pulse 4). Reverse polarity protection. (Consumption: 0.7W idle, 1.7W max.)
- 19-36 VDC, Pol (Power over Ethernet) DTE Type 1 according to IEEE 802.3at. (Consumption: 0.7W idle, 1.7W max.)

**Configuration**

**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: 30 sweep cycles in each axes, Velocity: 100mm/s, Mode: in operation, Frequency: 5-500 Hz, Displacement ±3.5 mm, Acceleration: 2g.

**Humidity compatibility:**
- EN 60068-2-78: 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).
- 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**
- Wireless standards: WLAN 802.11 a, b, g, n, d, r (fast roaming).
- Operation modes: Access point or Client
- WiFi channels: 2.4 GHz, channel 1-11 or 2-13 depending on regulatory domain scan.
- RF output power: 18 dBm EIRP (including antenna gain 3dB)
- Max number of slaves for access point: 7
- Power consumption: 54mA@24VDC
- Net data throughput: 7 Mbps. Link speed: max 65 Mbps (802.11n SSID)
- Security: WEP 64/128, WPA, WPA-PSK and WPA2, TKIP and AES/CCMP, LEAP, PEAP including MS-CHAP.

**Bluetooth Low Energy**
- Wireless standards (profiles): GATT
- Operation modes: Central or Peripheral (pending)
- RF output power: 10 dBm (including antenna gain 3dB)
- Max number of simultaneous Peripheral connections: 7
- Max number of Peripherals is virtually unlimited by multiplexing
- Power consumption: 36mA@24VDC
- Net data throughput: ~200 kbps
- Bluetooth version support: Bluetooth 4.1 and later
- Security: Privacy & Confidentiality, NIST Compliant, FIPS Approved

**CERTIFICATIONS**

**Europe**
- ATEX Category 3, zone 2 according to EN60079-15, product marking: EX EEx II 3 G IIC T4 Gc, CE, 2014/53/EU (Europa Equipment Directive (RED))

**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 code: OJ4703 (AWB2000 only)

### Order a Starter Kit!
Bolt RJ4S: 2 x Wireless Bolts RJ45 (AWB2030), 2 x Power Supply (world), power cables, Quick Start Guide. Order code: AWB2030