



# Anybus Wireless Bolt product

## Anybus Wireless Bolt Serial

Anybus Wireless Bolt Serial enables you to connect industrial machines and devices to a wireless network. It is attached onto a cabinet or a machine to enable wireless access over Bluetooth®, or WiFi (Wireless LAN). It converts serial RS232/RS485 data to TCP/IP communication over the wireless link. It also works as a router for Modbus-TCP to Modbus-RTU enabling transparent access to all your existing serial Modbus devices.



With Anybus Wireless Bolt you get an All-in-one package featuring, connector, communication processor and integrated antenna in the same unit, with an industrial IP66/IP67 protection class.

### FEATURES & BENEFITS

- Serial RS232/RS485 to wireless and TCP/IP conversion
- Communication over WiFi or Bluetooth
- Serial cable replacement “serial to wireless to serial”
- Wide baudrate support 2400 to 921600 Bit/s
- Special Modbus-RTU mode
- Modbus-TCP to Modbus-RTU routing
- Web-configuration over wireless or ethernet
- Available with white top Sunbolt enabling 30% higher surrounding temperature compared to black in direct sunlight
- Full compatibility with Anybus Wireless Bridge and Anybus Wireless Bolt Ethernet
- CLI (Command Line Interface) for configuration and diagnostics

### Key Use Cases

#### Cable Replacement

Point-to-point: Serial to Bolt to WLAN/BT to Bolt to Serial.



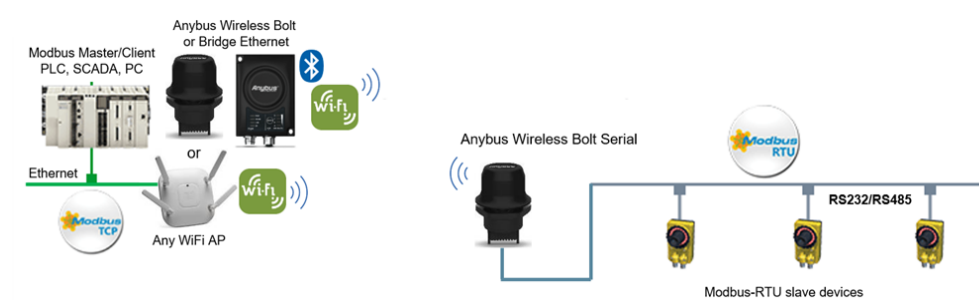
#### Common bus

Multi-point; Serial to Bolt to WLAN/BT to many Bolt to Serial Up to 8 participants (1 master and 7 slaves). Wireless multi-drop (master-slave). The Bolt is transparent. Message from host to Bolt is forwarded to all slaves. Every slave response forwarded to the host. Suitable for master/slave polled protocols with RS485, e.g. Modbus RTU.



## Modbus-TCP to Modbus-RTU router/gateway

Converting serial RS232/RS485 data to TCP/IP over wireless and wired



## TCP/IP Socket to RS232/RS485

WLAN/BT to one or several "Bolt Serial" to serial devices. Raw data to TCP port. Any serial protocol.



### Technical Specifications

<b>Serial interface</b>	Serial: RS232/RS485 Baud rate: 2400 - 921600 bit/s Data bits 5-8, stop bits 1-2, parity None, Odd, Even. Transparent serial protocol transfer including support for Modbus-RTU and Modbus-TCP to Modbus-RTU transparent routing.
<b>Ethernet interface</b>	Ethernet: 10/100BASE-T with automatic MDI/MDIX auto cross-over detection. For configuration

	only.
<b>WiFi interface</b>	<p>Wireless standards: IEEE 802.11 a, b, g, n, d.</p> <p>Operation modes: Access point or Client</p> <p>Wireless LAN bands: 2.4GHz and 5GHz</p> <p>RF output power: 18 dBm EIRP (including antenna gain 3dBi)</p> <p>Max number of stations for access point: 7</p> <p>Power consumption: 54mA@24VDC</p> <p>Net data throughput: 20 Mbps. Link speed: max 65 Mbps (802.11n SISO)</p> <p>Security: WEP 64/128, WPA, WPA-PSK and WPA2, TKIP and AES/CCMP, LEAP, PEAP including MS-CHAP.</p>
<b>Bluetooth interface</b>	<p>Wireless standards (profiles): PANU, NAP &amp; SPP</p> <p>Operation modes: Access point or Client</p> <p>RF output power: 14 dBm EIRP (including antenna gain 3dBi)</p> <p>Bluetooth conducted sensitivity: -90 dBm</p> <p>Max number of slaves for access point: 7</p> <p>Power consumption: 36 mA@24VDC</p> <p>Net data throughput: ~1 Mbps</p> <p>Bluetooth version support: Classic Bluetooth v2.1</p> <p>Security: Authentication &amp; Authorization, Encryption &amp; Data Protection, Privacy &amp; Confidentiality, NIST Compliant, FIPS Approved</p>
<b>Dimensions</b>	Diameter: 68 mm. Height: 75 mm (95 mm including connector. Outside height: 41 mm)
<b>Weight</b>	81g
<b>Temperature Bolt (black)</b>	<p>Shadow: -40 to +65 °C</p> <p>Direct sunlight: -40 to +45 °C</p> <p>Storage temperature: -40 to +85 °C</p>
<b>Temperature Sunbolt (white)</b>	<p>Shadow and direct sunlight: -40 to +65 °C</p> <p>Storage temperature: -40 to +85 °C</p>
<b>Output Power</b>	<p>WiFi 18 dBm EIRP - Bluetooth 14 dBm EIRP - Bluetooth Low Energy 10 dBm EIRP</p> <p>All including antenna gain 3dBi</p>
<b>Power Supply</b>	9-30 VDC (-5% +20%), Cranking 12V (ISO 7637-2:2011 pulse 4). Reverse polarity protection.
<b>Power Consumption</b>	0.7W idle, 1.7W max (54mA@24VDC with Wireless LAN and 36mA@24VDC with Bluetooth)
<b>Enclosure material</b>	<p>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 476C. Bottom: Celanex: XFR 6840 GF15. PBT glass reinforced plastic.</p>
<b>Mechanical rating</b>	IP66 and IP67 for top (outside the host), IP21 for bottom (inside the host), UL NEMA 4X
<b>Mounting</b>	M50 screw and nut (50.5 mm hole needed)
<b>Max Range</b>	100 meters
<b>Antenna</b>	One built in antenna
<b>Connector</b>	Included plug connector (2x9p; 3.5mm, Phoenix DFMC 1.5/9-ST-3.5, push-in spring connection)
<b>Vibration Compatibility</b>	<p>Sinosodial 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.</p> <p>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: 30 m/s2 , Duration: 11 ms.</p>

Certifications	
Europe	ATEX: ATEX Category 3, zone 2 according to EN60079-15, product marking: EX II 3 G nA IIC T4. CE, 2014/53/EU Radio Equipment Directive (RED)
USA	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
Japan	MIC
Other countries	Brazil, Australia, Colombia, Turkey, Malaysia, Argentina, India, Chile, Korea

#### Ordering Information

##### Included components

Anybus Wireless Bolt Serial

Including 18-pin connector, 1x Installation guide.

Order Code: AWB2010 (black)

Order Code: AWB2011 (Sunbolt white top, black base)

##### Starterkit

Anybus Wireless Bolt Serial Starterkit

Including: 2 x Bolt Serial, cables & 2 x power world supply

Order Code: AWB2305

Max 1 Pcs / Customer.

##### Accessories

024703; Cable kit. Molded RJ45 Bolt connector wired with 1.5m Ethernet cable and 24 VDC power supply (world) + Extra Ethernet cable fastening to avoid cable strand breaks.

024704; Bolt connector with Ethernet cable (RJ45 female). Total length 20 cm

[024708](#) - Bolt base Protector; Read more about the base protector [here](#).

[024709](#) - Bolt base Protector and Mounting Bracket kit; Read more about the base protector [here](#).

##### Guarantee

3 years

For purchasing instructions and terms and conditions, see: [How to buy](#).

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