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aria Wireless Modbus

(actual size)

Wireless Modbus for the IoT

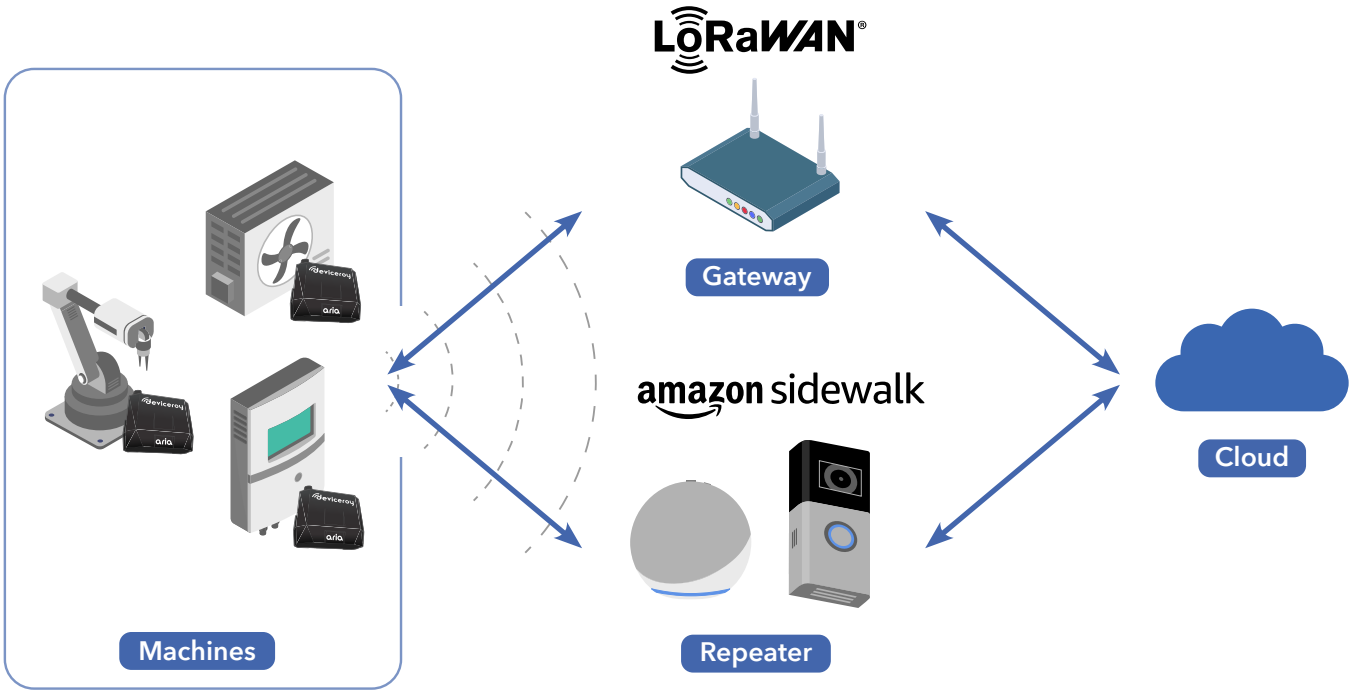
Modbus has been the language of industrial machines since the 1970's. Unfortunately, Modbus predates the Internet of Things (IoT) and has no security. Although the data is valuable, the expense to wire Modbus is usually too great of a barrier to justify. It requires specialized knowledge of an outdated protocol and complex wiring (and wireless) solutions that many buildings can't support. Still, when it comes to industrial communications, Modbus is king.

Bring in LoRaWAN and Amazon Sidewalk, the industry's most powerful wireless communication technologies. LoRaWAN is known for reaching miles, and was designed for extreme industrial applications. Amazon Sidewalk is its residential counterpart that uses the same LoRa radio, which also spans miles. These network options make Aria the most connectable device on the planet.

With the Aria, the old becomes new. Easily connect your oldest Modbus machines to the most advanced IoT infrastructure in under 5 minutes with just a phone. No messy wires or costly installations. Aria knows everything about Modbus (and IoT) so you don't have to. Keep your capital assets and all the data they've been hiding with one simple addition. Aria, by Deviceroy.

Use cases include:

- Programmable Logic Circuits (PLC)
- Solar Inverters
- Building Management Systems (BMS)
- Utility Meters and Sub-meters



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aria Wireless Modbus Specifications

General

Processor	32-bit ARM® Cortex™-M4, 64 MHz
Memory	2 MB Flash
LEDs	16-million colors LED status/activity indicator
Power Supply	5VDC Power over Ethernet (cable not included) Power over USB (cable not included)
Reset Button Functions	Restart, Limited Factory Reset, Test Mode
Operating Temperature	Extended Industrial: -40 °F to 185 °F (-40 °C to 85 °C)
Dimensions	2.35 x 1.98 x 1.06" (59.75 x 50.17 x 27 mm)
Weight	1.60 oz (45g)
CE	CE SDoC CE RED testing in progress
FCC IC	ID: 2A3KP-ARIA1 IC: 29172-ARIA1
Internal Power Reserve	Up to 6 days emergency power
Safety	RoHS, UL 94, IP53
Encryption	**Processor:** ARM® TrustZone® CryptoCell, Bit-locked **Memory:** Proprietary **LoRaWAN:** 128-Bit AES **Bluetooth:** AES-CCM EnhancedKey **Ethernet:** TLS 1.3

Interfaces

RS-485	2/3-wire Modbus (optional ground)
USB	USB-C, device mode Power over USB USB-A backwards compatible
Ethernet	802.3af Power over Ethernet (PoE) Cat5, Cat5e, Cat6
Bluetooth®	BLE 5 BLE Long Range BLE mesh*
LoRa®	LoRaWAN 1.0.4, 1.1 LoRa® FSK
Bridge Mode	Available to Early Access (EA) Members
Amazon Sidewalk	All modes: BLE, FSK, LoRa

Communication

Supported Networks	Amazon Sidewalk AWS IoT Core for LoRaWAN Everynet Orbiwise Senet, Helium The Things Network/Industries DIY, Bring Your Own
LoRa®	US/CA 902 to 928 MHz ISM EU 863 to 870 MHz SRD Class A, B & C supported ADR supported Range: Up to 10 miles (16 km) terrestrial
Bluetooth®	Global 2.4 to 2.483 GHz ISM Up to 2 Mbps Range: Up to 1,000 feet (300 m)
Ethernet	Modbus RTU, Modbus TCP/UDP
Modbus	Modbus RTU, Modbus TCP/UDP

**Some communication protocols are still under development.*

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