

DATA SHEET

ARUBA AS-100 WIRELESS SENSOR

Multivendor, Remote Management for Aruba Bluetooth Low Energy Beacons

Aruba Mobile Engagement enables venues to engage with visitors' mobile devices using Aruba Beacons powered by Bluetooth Low Energy (BLE) and the Meridian mobile-app platform. The Aruba Sensor (AS-100), enables remote beacon management in a multi-vendor environment.

The Aruba Sensor is a small, dual-band 802.11n client radio and a BLE radio that can act as an additional Aruba Beacon to power mobile engagement applications without battery power. Aruba Sensor also allows all enterprises — whether they are Aruba Wi-Fi customers or not — to remotely manage their Aruba Beacon deployments over their existing Wi-Fi infrastructure.



AS-100 wireless sensor

UNIQUE BENEFITS

- Dual band 802.11n 1x1 client radio (network connectivity)
- Bluetooth Low-Energy (BLE) radio (indoor positioning, provisioning)
- Advanced Cellular Coexistence (ACC)
- Direct AC power plug-in, and option to power over USB
- Lock and optional tamper-proof casing

ARUBA SENSOR

The Aruba Sensor plugs directly into an AC outlet and can hear other Aruba Beacons and Aruba Tags within a 25-meter range and reports relevant data over Wi-Fi to a cloud-based management system (called the Meridian Editor).

Aruba AS-100 enables the capability to centrally manage Aruba Beacons available to any venue, regardless of their wireless network vendor, so that they can manage an Aruba Beacon-based Mobile Engagement solution quickly and easily from a convenient location.

The multivendor Aruba Sensor allows larger venues with an extensive Aruba Beacon deployment to easily manage all of these devices without having to go on-location to individually check each beacon or alter their existing wireless infrastructure.

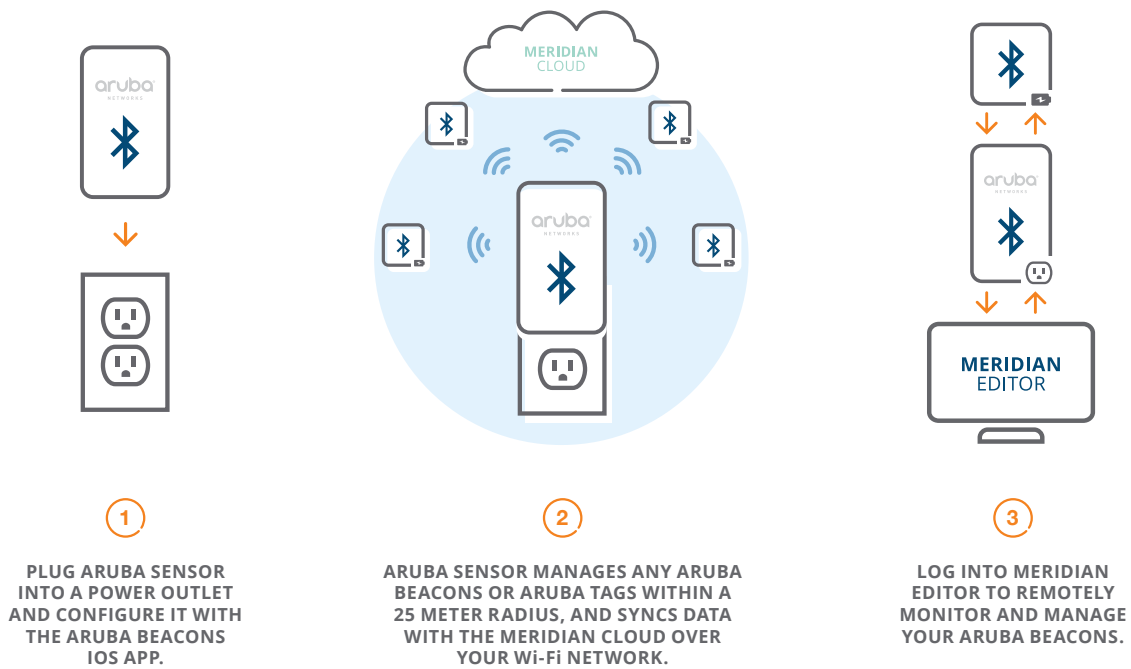


figure 1.0_062217_AS100sensor-dsa

HOW IT WORKS

After initially configuring Aruba Sensor and plugging it into a venue's AC outlet, Aruba Sensor automatically sends the data of all Aruba Beacons and Aruba Tags within range to the Meridian cloud server over the venue's existing Wi-Fi connection.

Aruba Sensor automatically sends updated data on a beacon's battery life, status, settings such as power level, and campaigns to one centralized location — the cloud-hosted Meridian Editor. This means that venues can simply log in to the same cloud-based content management system to both manage their app content and change the nature of their physical beacon hardware.

CONFIGURING THE ARUBA SENSOR

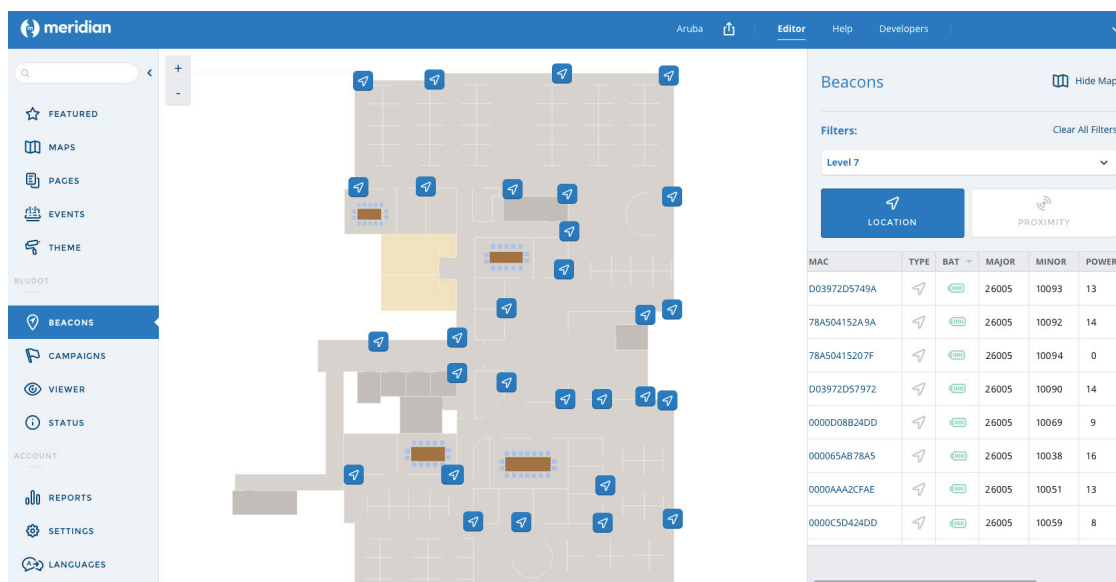
Venues use the same tool to configure their Aruba Beacons and Aruba Sensors — a mobile app called the Aruba Beacons App. The Aruba Beacons App can be downloaded for free to an iOS device. There, venues simply log in using their existing Meridian Editor account credentials.

The Aruba Beacons App associates the Aruba Sensor with the appropriate Meridian account's venue maps so that you can place the Sensor on a digital map that corresponds with its physical location. The app also provides an interface to connect the Aruba Sensor device to the venue's existing Wi-Fi network.

After the initial one-time configuration, the Aruba Sensor will then automatically send Aruba Beacon data at regular intervals over the Wi-Fi to the Meridian Editor where venues can remotely access it.

ENTERPRISE-GRADE BEACON MANGEMENT

Large Aruba Beacon deployments require centralized management tools that reduce operating expenses and allow public-facing venues – regardless of their existing wireless infrastructure – to engage in a BLE beacon-based mobile engagement strategy.



Beacons management dashboard

The multivendor Aruba Sensor works together with the Meridian mobile app platform, Aruba Beacons app, and Aruba Beacon hardware to provide venues with a complete, enterprise-grade Mobile Engagement solution that is easy and intuitive to deploy and maintain.

SPECIFICATIONS

Product Models

- AS-100-xx: Aruba AS-100 Wireless Sensor, 802.11n 1x1:1, BLE (xx = NA/EU/UK/CN for region specific AC power plug)

Operating Modes

- Acts as a client to the wireless network
- Network managed BLE beacon for client-based indoor positioning services
- Can be used to augment the density of “observers” for the purposes of asset tracking

Wi-Fi Radio Specifications

- Radio type: indoor, dual-band client radio, 5 GHz or 2.4 GHz 802.11a/b/g/n 1x1
- Software-configurable radio supports 5 GHz and 2.4 GHz
- Maximum data rate of 72.2 Mbps (HT20) or 150 Mbp (HT40)
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 GHz to 2.4835 GHz
 - 5.150 GHz to 5.250 GHz (U-NII-1)
 - 5.250 GHz to 5.350 GHz (U-NII-2)
 - 5.470 GHz to 5.725 GHz (U-NII-2E)
 - 5.725 GHz to 5.850 GHz (U-NII-3 / ISM)

- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
 - 802.11b: Direct-sequence spread-spectrum (DSSS)
 - 802.11a/g/n: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power (conducted): 10 dBm
 - Excludes antenna gain (2.3 dBi/3.7 dBi for 2.4 GHz/5 GHz)
 - Power may be restricted to comply with local regulatory requirements
- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
- Short guard interval for 20 MHz and 40 MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Supported data rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n: 6.5 to 150 (MCS0 to MCS7)
- 802.11n high-throughput (HT) support: HT 20/40

Other Interfaces

- AC power interface, supporting multiple region-specific plugs
 - Plug shipping with unit defined by part number
 - AC power voltage range: 90V – 265V
 - AC power frequency range: 47 Hz – 63 Hz
- USB 2.0 device interface (micro-B type connector) for DC power (5V, USB standard)
- On/off push-button power switch
- Bluetooth Low Energy (BLE) radio
 - Up to 4dBm transmit power (class 2) and -94 dBm receive sensitivity
 - Integrated antenna, 0.3 dBi gain
- Visual indicator for system status (bi-color LED)
- Reset button: factory reset (during device power up), LED on/off toggle (during operation)
- Serial console interface (custom, compatible with AP-CBL-SER)
- Kensington security slot

Power

- Maximum (worst-case) power consumption: 1.6W (from USB) or 2.2W (from AC)
- When both power sources are available, DC (USB) power takes priority (no current drawn from AC)

Mounting

- The device ships with a region-specific AC power plug that can be used to insert the sensor directly into an AC power outlet. A simple rotating bracket is provided to optionally secure the sensor to the wall once it's plugged in.
- When the device is DC powered using the micro-B USB interface and a USB cable (1 m cable supplied), the wall-mount bracket can be used to secure both the sensor to the wall and the USB plug in the device. A special key is needed to remove the sensor from the bracket and to disconnect the USB cable.

Mechanical

- Dimensions/weight (unit, excluding mount accessories, AC plug):
 - 80 mm x 48 mm x 29 mm (W x D x H)
 - 65g
- Dimensions/weight (as shipping):
 - 160 mm x 120 mm x 58 mm (W x D x H)
 - 240g

Environmental

- Operating:
 - Temperature: 0° C to +50° C (+32° F to +122° F)
 - Humidity: 5% to 95% non-condensing
- Storage and transportation:
 - Temperature: -40° C to +70° C (-40° F to +158° F)

Regulatory

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative.

Reliability

- MTBF: 3,377,198 hrs (386 yrs) at +25° C operating temperature

Regulatory Model Number

- AS-100 (all variants): LSIN0100

Certifications

- CB Scheme Safety, cTUVus
- Bluetooth SIG interoperability certification

Warranty

- [Aruba limited lifetime warranty](#)

Minimum Software Versions

- Aruba Beacons app 2.1.0

WI-FI RF PERFORMANCE TABLE

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	10.0	-86.0
11 Mbps	10.0	-84.0
802.11g 2.4 GHz		
6 Mbps	10.0	-86.0
54 Mbps	10.0	-71.0
802.11n HT20 2.4 GHz		
MCS0	10.0	-86.0
MCS7	10.0	-67.0
802.11n HT40 2.4 GHz		
MCS0	10.0	-83.0
MCS7	10.0	-64.0
802.11a 5 GHz		
6 Mbps	10.0	-86.0
54 Mbps	9.0	-71.0
802.11n HT20 5 GHz		
MCS0	10.0	-86.0
MCS7	9.0	-67.0
802.11n HT40 5 GHz		
MCS0	10.0	-83.0
MCS7	9.0	-64.0

Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

ORDERING INFORMATION

Part Number	Description
AS-100 Wireless Sensor	
JW791A	Aruba AS-100 (NA) DBSC 11n 1x1 BLE Sensor
JW792A	Aruba AS-100 (EU) DBSC 11n 1x1 BLE Sensor
JW793A	Aruba AS-100 (UK) DBSC 11n 1x1 BLE Sensor
JW794A	Aruba AS-100 (CN) DBSC 11n 1x1 BLE Sensor
JZ108A	Aruba AS-100 (Brazil) DBSC 11n 1x1 BLE Sensor
JZ109A	Aruba AS-100 (Australia) DBSC 11n 1x1 BLE Sensor



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