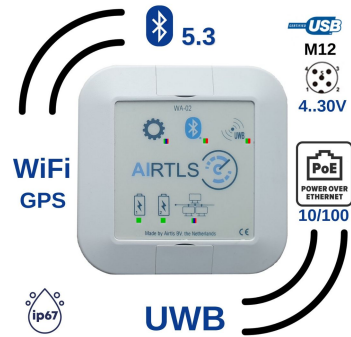


Ultra Wide Band ANCHOR

WA02

Key features:

- Tracking up to 300m range UWB (anchor to tag)
- Operates outside congested wifi bands
- Qorvo DW1000 UWB Radio, 4-7GHz, IEEE 802.15.4a
- +8dBm Bluetooth 5.3
- Firmware upgrade over the air (AES security, unique ID)
- 1000mAh LiPo backup battery up to 9hrs (optional)
- IP67



Water proof anchor

Indoor localisation < 10cm accuracy¹.

Typical indoor range in buildings for UWB equipment is 30m at 6.8Mbps passing through 3 brick walls. For open halls or outdoor LOS (line of sight) range is up to 300m Anchor to tag. Special electronics to increase sensitivity and selectivity of the radio transceiver enable long range tracking. UWB radio signals travel through walls and concrete floors, enabling a true 3D tracking environment. The ultrawideband radio guarantees a reliable connection as a data backhaul for bi-directional secured communication. UWB operates outside the WiFi bands using worldwide allowed frequencies. Standard UWB channels: 4.5 and 6.5 GHz

Connector 1 : M12 5 pin 4.5 to 30VDC, IP67
USB pins integrated in M12 connector

Connector 2 : RJ45, Ethernet 10/100, IP67

Optional features

- WiFi : 802.11 b/g/n
- Ethernet : PoE 802.3af. Mode A & B
- Backup Battery : 1000mAh, 9 hours
- 8GHz UWB DW3220 (Japan, China)
- GPS



Automatic deployment



UWB indoor & outdoor tracking



3D tracking



Energy efficient: 0.4 Watt



3.6 Wh Battery (LiPo)



-25 to +85 °C, IP67



Network to all IOT devices



Infiniscale[®], wireless auto scalable



84000 trackers/zone (200x200m)², 1Hz



2100 locates per second in 3D, MTWR



Low latency, collect data every 40ms

Dimensions	100 x 100 x 25 mm
Operational temperature	-25 to +85 °C, without battery
Weight	200g
Power consumption	0.4 Watt (WiFi off)
Radio	UWB 4-9GHz Bluetooth 2.4GHz 2Mbps WiFi 2.4GHz +20dBm GPS, GLONASS, Galileo, BeiDou









mail into@airtls.com
Version 1.1 Q4 2024

¹: Accuracy range from sub cm level, in line of sight conditions, and anchor positions verified with a total station, to few decimeter accuracy in standard commercial building environment with brick or concrete walls.

²: Standard firmware supports 10496 trackers, 0.05Hz, 40ms latency in data collection per typical zone of 200x200m / UWB channel. 2 UWB channels can be active. High Capacity firmware supports 84000 tags, 1Hz, 16s average latency, RTDOA.

Factsheet

WA02 LED INDICATION

	Function	LED	Description
	SYSTEM	RED/GREEN/BLUE	Blue blink : UWB network sync Red blinking : error, on:low-bat Green : update seat lease of a tag
	BLUETOOTH	RED/GREEN	Red : Bluetooth advertise Green : Connected
	UWB	RED/GREEN	Red blinking: TX transmit Green blinking: RX receive
	BATTERY 1	GREEN	Green on : Charging Green blinking : Ethernet data transfer
	BATTERY 2	GREEN	Green on : Charging
	NETWORK	RED/GREEN/BLUE	Red : Link active Green : Ethernet data transfer Blue : ON 100Mbps, OFF 10 Mbps
	WiFi	RED/GREEN	Red blinking : TX transmit Green blinking : RX receive

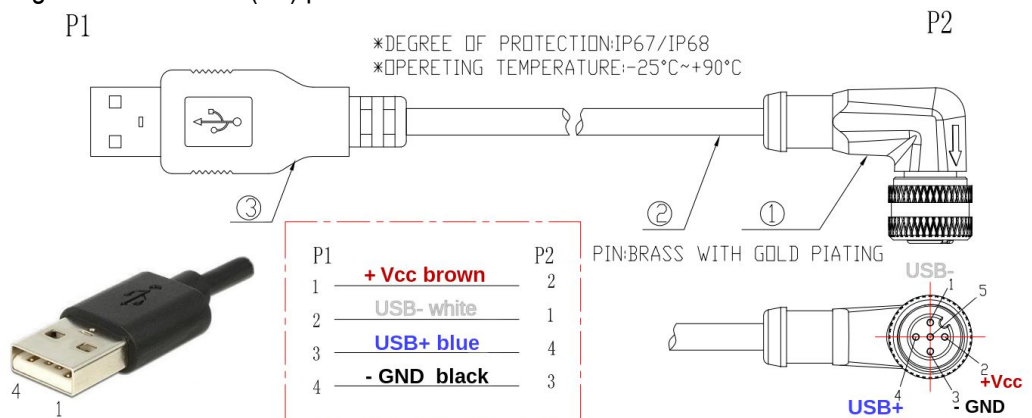


USB, Power cable

USB 5V. Input voltage range M12 connector (P2) pin 2: 4.5 to 30VDC

P1: USB-A

P2: M12 5pin IP67



For industrial and building automation use a 24VDC power supply and M12 T-cable-splitters.

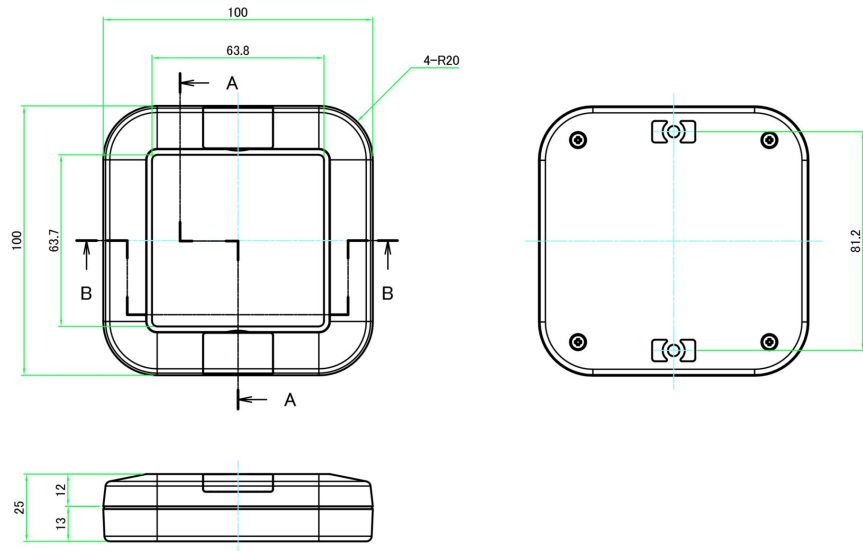
Max 12 Anchors on one power line of max 500 meter. The M12 cables have molded IP67 connectors

For data offloading a M12 to USB cable can be used or offload data via ethernet (10/100) IP67 rated connector, WiFi or Bluetooth. Every anchor has a copy of the tracker ranging data.

Distributed network administration ensures no single point of failure.

The UWB network also does not have, or need, a 'master' anchor.

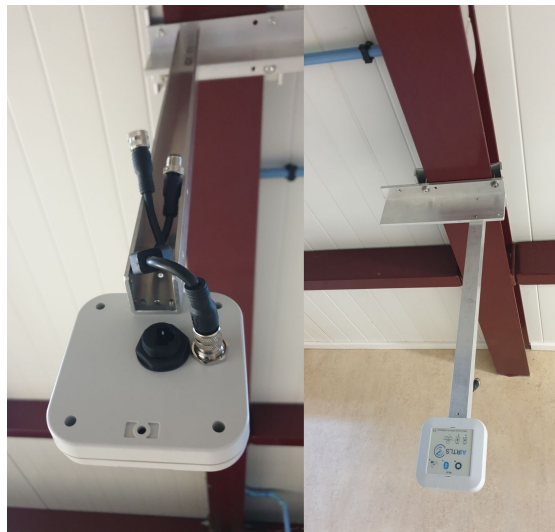
DIMENSIONS



OPTIONAL: 3/8 UNC Mounting bracket



I-beam Mounting flange (100 to 250mm wide flanges). M12 IP67 T-splitter-cable attached



DEPLOYMENT

The AIRTLS Anchors are part of the AIRTLS Sensor and Tracking Network.

The AIRTLS Anchors are the reference points for all AIRTLS tags deployed at the facility.

The Anchor send and receive signals to/from the sensors and broadcast the information to all anchors in range.

Collect to the data from 1 or more anchors via:

- Ethernet

- USB

- WiFi

- Bluetooth 5.3 (compatible with 4.0 or higher)

For a reliable tracking, anchors are typically spaced 20-100 to meters apart for outdoor use, 10 to 30m for indoor use.

A higher density of anchors renders more robust positioning results.

Typically 6 or more anchors are used.

Anchors are powered via:

- Power over Ethernet (PoE)

- USB

- DC power 4.5 to 30VDC

- Internal battery

REGULATORY COMPLIANCE

USA

- 15.517 (indoor use only)

- 15.519 (outdoor use only)

EU

- ETSI EN 302065-1 (HF)

- ETSI EN 303883 (HF)

- ETSI TS 103361 (HF)

- EN 301 489 -1, -17, -33 (EMC)

- EN 55032 Class B (EMC)

- EN 61000 -3-2, -3-3, -4-2, -4-4, --4-5, -4-6, -4-11 (EMC)

- EN 62311 (Human Exposure)

- 1999/519/EC (Human Exposure)