

General specifications

- **Name:** Beacon Industrial-RX
- **Size:** 108x85x59mm
- **Weight:** ~ 140g (including antenna)
- **Weight:** ~ 120g (without antenna)
- **Power:** 5V, supplied via power connector
- **Radio frequency band:** 868/915MHz
- **Radio output power:** <10 mW (<10 dBm)
- **Battery:** No battery onboard (connected separately)
- **Ports:** 4-pin power connector, 7-pin interfaces connector



Tracking performance

	IA	NIA	MF NIA
Stationary beacon	×	✓	✓
Automatic map building	×	×	×
Mobile beacon	✓	×	×

- **TX frequency:** None
- **RX frequency:** Any of: 19, 22, 25, 28, 31, 34, 37, 45kHz*
- **Distance measurement:** Up to 30m 1D
- **Precision:** Differential: $\pm 2\text{cm}$, Absolute: 1–3% of the distance to the beacons
- **Additional sensors:** IMU - Accelerometer + gyroscope

Interfaces

- UART
- SPI
- Virtual UART via USB
- NMEA
- I2C (for compass simulation)

Supported Accessories

- Antenna Full-Size
- Battery-5V-Outdoor
- Converter-220V-5V-IP67
- Cable-USB-Industrial
- Omni-Microphone-IP67

Overview

The Beacon Industrial-RX is a beacon for Marvelmind precise Indoor positioning and navigation system. It has a digital microphone that allows Beacon Industrial-RX to receive any frequency used in the Marvelmind system. Beacon Industrial-RX has no sensors onboard. This means it can only receive ultrasonic signals. Beacon Industrial-RX has an IMU on board, which allows users to get information from the gyroscope and accelerometer.

Beacon Industrial-RX is designed for outdoor conditions and industrial applications. It also survives complete submersion in water.

Applications

- Industrial (Forklift/people tracking, factory automation)
- Healthcare (locate assets, patients & staff)
- Retail (security, navigation, customer analytics)
- Consumer (connected home, sports analytics)
- Distance measurement indoors

*digital microphone can receive any frequency we use in Marvelmind products; it can be switched automatically (IA/MF NIA) or manually (NIA)