

# INVICTA 210 LBB

## BLUETOOTH BATTERY DGPS BEACON RECEIVER

The Invicta 210 LBB provides sub-meter GPS performance, allowing pilots to safely navigate ships in and out of port.



The Invicta 210 LBB GPS receiver is a high-quality beacon DGPS solution for marine navigation. Counted on by pilots throughout the industry, Invicta receivers are manufactured in the U.S. by Raven Industries, a leader in quality GPS receivers.

The Invicta 210 LBB GPS receiver provides 10 Hz sub-meter GPS performance. Bluetooth (wireless) connectivity and a water-resistant enclosure allow for a bridge-mounted receiver and antenna system free of the constraints of spooled cables. With a battery life of 12-16 hours, the Invicta 210 LBB GPS receiver provides ample time for pilots in most harbors to safely navigate ships in and out of port.

### FEATURES

- Sub-meter differential GPS accuracy
- Water-resistant, polycarbonate and high impact-resistant weatherproof enclosure
- 12-16 hours of battery life with battery status indicator and charger
- Bluetooth v2.0 compliant Class 1 high power radio with transmit range up to 100 m (330 ft)
- RG-58 2 m (6 ft) cable included
- Standard carrying and hanging strap included

## PHYSICAL CHARACTERISTICS

### RECEIVER

Size	222 mm x 146 mm x 55 mm	8.75 in x 5.75 in x 2.17 in
Weight	1.8 kg	4 lbs
Connectors	TNC, female Water-resistant battery charging connector with dust cap	

### L1/L2 ANTENNA

Size	112 mm x 67 mm	4.4 in x 2.65 in
Weight	397 g	14 oz

### ENVIRONMENTAL

Operating Temperature	-30°C to 50°C	-22°F to +122°F
Charging Temperature	0°C to 45°C	32°F to +113°F
Storing Temperature	-30°C to 50°C	-22°F to 122°F
Maximum Altitude	18,288 m	60,000 ft
Maximum Velocity	1,852 km/h	1,000 kts
Acceleration	2 g	
Water Ingress	IP66	

## PERFORMANCE

### GLOBAL POSITIONING SYSTEM

- Position update rate up to 10 Hz
- Differential accuracy better than 1 meter horizontal RMS
- NMEA messages: ALM, DTM, GGA, GRS, GST, GSA, GSV, MSK, MSS, RMC, VTG, ZDA and other proprietary messages

### BEACON PERFORMANCE

- 283.5 - 325.0 kHz frequency range
- Automatic or manual frequency selection
- 500 Hz channel spacing
- 100 dB dynamic range
- Channel rejection:
  - > 36 dB at 1 kHz
  - > 28 dB at 500 Hz

### POWER

Battery	10.8 V, 7.2Ah Li-Ion rechargeable smart battery 5-LED Battery status indicator	
Operating Time at 75°F	12-16 h with Bluetooth connection	
Recharge Time	2.5-3 h	
Input Voltage	100-240 VAC (47-63 Hz) at 1.1 A max	