BSS MATERIEL LIMITED

# OWL-1M

## Advanced Guidance System

# Light Weight up to 2000 g

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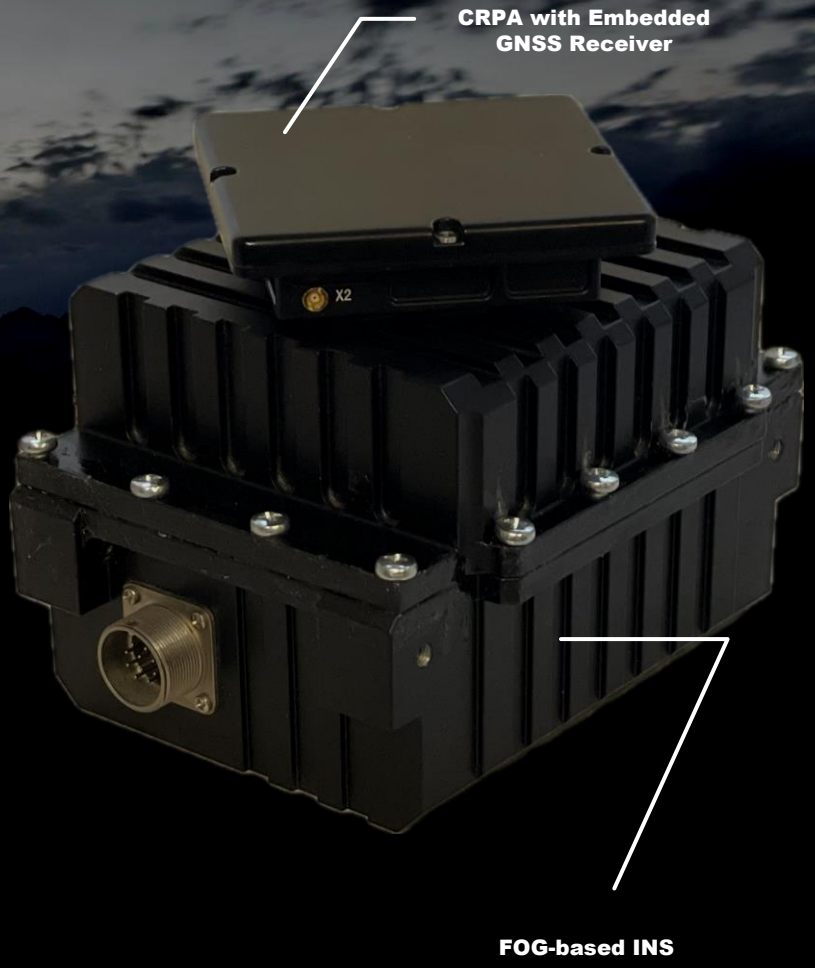
**An Anti-Jamming & Anti-Spoofing Guidance System is an advanced navigation technology designed to protect precision-guided assets from intentional or unintentional electronic interference (jamming and spoofing). These systems combine sophisticated Controlled Reception Pattern Antenna (CRPA), hardware filtering, and multi-sensor algorithmic integration to ensure that missiles, unmanned aerial vehicles, naval vessels, and aircraft can maintain highly accurate positioning and track profiles when operating in electromagnetically contested environments.**

**OWL-1M Guidance System comprises a GNSS Receiver, combined with a five-element CRPA and FOG-based INS. The purpose of using the OWL-1M is to ensure stable reception of the all Global Navigation Satellite System (GNSS) navigation signal including, NavIC in conditions of CW or FMCW jamming from Electronic Warfare Systems. Triple-Band GNSS Receiver (L1/L2/L5): Ideal for critical infrastructure and long-range drones.**
**Securing L5 provides an extra layer of safety because its signal structure is harder to spoof. FOG-based INS contains gyroscopes and accelerometers to measure dynamic rotation and acceleration. If a jammer momentarily overwhelms the antenna array, the onboard INS instantly bridges the gap, holding centimeter-level trajectory tracking until the CRPA calculates a new spatial null map.**

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### Specification

**CRPA Receive and Anti-Jamming Bands:**

- 1600.99 MHz – GLONASS G1;
- 1575.42 MHz – GPS L1, Galileo E1, BeiDou B1C, NavIC L1, QZSS L1;
- 1207.14 MHz – Galileo E5b, BeiDou B2b;
- 1227.60 MHz – GPS L2, QZSS L2;
- 1248.06 MHz – GLONASS G2;
- 1278.75 MHz – Galileo E6, QZSS L6;
- 1268.52 MHz – BeiDou B3;
- 1176.45 MHz – GPS L5, Galileo E5a, BeiDou B2a, NavIC L5, QZSS L5.

**Antenna Array: 5**
**Nulling Directions: 3**
**Provides Anti-Jamming immunity above 115 dB J/S for single jammer**
**Suppresses CW,FMCW, pulsed narrowband and broadband noise jammers**
**Data Rate: 115200**
**Intefaces: UART**
**Data Output Format: NMEA 0183**
**Power Supply: 5 V**
**Power Consumption: 2 W**
**Power/Interface Connector: J30J-9TP**
**Weight (approximation): 550 g**
**Size (approximation): 170×170×32 mm**
**Temperature: -40°C to +85°C**

**NavGate-3M FOG-based INS**
**Position (free inertial): 698 m/hr CEP witch Velocity 100 km/hr**
**Position (CRPA* with GNSS/GPS Aided): 5 m CEP**
**Position (DSMAC* * Aided): 3 m CEP**
**Heading: 0.4° RMS**
**Heading: 0.15°/h RMS**
**Pitch and Roll: 0.1° RMS**
**Gyrocompassing Alignment: 5 minutes coarse**
**Angular Rate: 500°/sec**
**Output Rate: up to 610 Hz**
**Temperature: -40° C + 55° C**
**Cooling: Passive**
**Input/output interface: Ethernet/RS232**
**Size: 170 x 110 x 80 mm**
**Weight: 1450 g**
**Power: 15W with 24V**
**MTBF: 15,000 hr**

### Advantages

**INS with Ultra-Fast North-Seeking**
**CRPA with Embedded GNSS Receiver**
**All-In-One Place**
**Multi-frequency GNSS Receiver:**

- NavIC L1/L5
- GLONASS G1/G2
- GPS L1/L2/L5
- GALILEO E1/E5/E6
- BeiDou B1/B2/B3
- QZSS L1/L2/L6

**Plug and Play**
**ITAR Free**

**GNSS performance is dependent on signal quality, satellite geometry, ionospheric and tropospheric conditions, baseline length, multipath effects and RF interference.**
**Specifications may be changed without notice.**

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