# I3500: HIGH PERFORMANCE MEMS INS+GNSS SENSOR
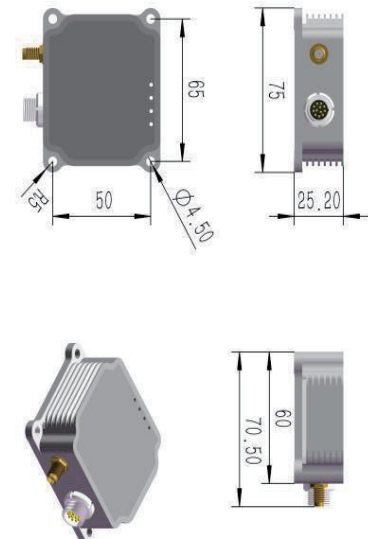
■ **PRODUCT DESCRIPTION**

I3500 is an integrated navigation system (GNSS/INS) composed of high-performance MEMS sensors, high-precision GNSS systems and high-performance microprocessors. The built-in self-developed high-reliability integrated navigation algorithm can output the speed, position, attitude and other information of the measured carrier in real time. Users can also externally connect RTCM differential correction data to achieve high-precision RTK positioning. The IP68 waterproof shell-type package can be easily integrated into the user's system.

■ **PRODUCT MAIN SPECIFICATION**

| Parameters | | Unit | Indicators | | |
|---|---|---|---|---|---|
| IMU+GNSS accuracy | Loss of lock time | s | 3 | 10 | 60 |
| | Position accuracy | cm | 1 | 100 | 600 |
| | Velocity accuracy | m/s | 0.03 | 0.1 | 0.1 |
| | Roll/Pitch accuracy | ° | 0.1 | 0.1 | 0.2 |
| | Heading accuracy | ° | 0.2 | 0.2 | 0.35 |
| Gyroscope | Range | ° / s | ±500 | | |
| | Resolution | ° / s | 0.001 | | |
| | Zero bias stability (Allan Curve, 1σ) | ° / h | 2.5 | | |
| | Random walk | °/√ hr | 0.3 | | |
| | Bandwidth | Hz | 120 | | |
| Accelerometer | Range | g | ±6 | | |
| | Resolution | g | 0.001 | | |
| | Zero bias stability (Allan Curve, 1σ) | ug | 30 | | |
| | Random walk | m/s√h | 0.028 | | |
| | Bandwidth | Hz | 150 | | |
| Data input/output | Data input | | NMEA/RTCM/Novtel SPAN Binary Protocol | | |
| | Data content | | Speed, position, acceleration, angular velocity | | |
| | Fusion algorithm | | EKF | | |
| | External sensor support | | Odometer, GNSS, DTU etc | | |
| Interface resource | COM1 | | Sensor data input and output interface, connected to user host | | |
| | COM2 | | Differential data input interface output GPGGA | | |
| | RS-422 | | Sensor data input and output interface, connected to user host | | |
| | CAN1 | | Sensor data input and output, odometer data input | | |
| | CAN2 | | Retain | | |
| | PPS | | Timing signal PPS duty cycle 50% | | |
| | SYNC | | Synchronous input and output pins | | |
| | Hardware interface | | 12 pin aviation plug | | |
| | Data update | | Maximum 100Hz (IMU), 100Hz (GNSS/INS) | | |
| Mechanical properties | Size | mm | 75 × 60 × 25 | | |
| | Weight | g | 180 | | |
| | IP level | — | IP68 | | |
| Electrical environment | Working temperature | ℃ | - 4 0 ～ + 8 5 | | |
| | Working voltage | V | 6 ～ 3 6 DC | | |
| | Power consumption | W | < 1.8 | | |
| | Certificate | | CE, ROHS | | |

■ **PRODUCT DIMENSION**



■ **PRODUCT APPLICATION**

－ Drone and UAV
－ Robotics navigation

－ ROV and unmanned ship
－

－ Autonomous vehicles
－ Unmanned agricultural machinery