THE PIM7500 IS A COMPACT, DUAL FREQUENCY GNSS MODULE

HIGH PRECISION GNSS, MOST COMPACT SIZE
The dual frequency PIM7500 offers future ready, precise positioning for space constrained, large volume applications. This single-sided SMD package solders down directly, eliminating the need for connectors and mounting hardware.

DESIGNED WITH PERFORMANCE AND THE FUTURE IN MIND
The PIM7500 is capable of tracking GPS, GLONASS, Galileo, BeiDou and NavIC (IRNSS). The consistent and high performance positioning, along with the flexibility and upgradable features of this receiver, makes this the optimal GNSS receiver for autonomous applications.

DESIGNED FOR FLEXIBILITY
The PIM7500 is scalable to offer sub-metre to centimetre level positioning. Options include NovAtel CORRECT® with RTK or TerraStar PPP for centimetre level real-time positioning and SPAN® GNSS+INS for continuous 3D position, velocity and attitude.

BENEFITS
• Compact, lightweight form factor
• Easy to use interface simplifies integration
• Low power consumption for power constrained, high performance positioning applications

FEATURES
• Flexible positioning modes include RTK, TerraStar PPP, SBAS and single-point
• Multi-constellation signal tracking for higher availability
• Dual-frequency enables high accuracy
• Advanced interference visualization and mitigation features
• SPAN integration bridges difficult environments
• Solder down module with effective thermal mitigation features

If you require more information about our receivers, visit hexagonpositioning.com/pim7500.
PERFORMANCE

Channel Count
181 Channels

Signal Tracking
GPS
L1, L2, L5
GLONASS
L1, L2
Galileo
E1, E5a, E5b, AltBOC
BeiDou
B1I, B1C, B2I, B2a
QZSS
L1, L1C, L2C, L5
NavIC (IRNSS)
L5
SBAS
WAAS, EGNOS, MSAS, GAGAN, QZSS
L-Band
Up to 3 channels

Horizontal Position Accuracy (RMS)
Single Point L1
1.5 m
Single Point L1/L2
1.2 m
SBAS
60 cm
DGPS
40 cm
TerraStar-L
40 cm
TerraStar-C PRO
2.5 cm
RTK
1 cm ± 1 ppm
Initialization time
< 10 s
Initialization reliability
> 99.9%

Maximum Data Rate
Measurements
up to 20 Hz
Position
up to 20 Hz
Time to First Fix
Cold start
< 50 s (typical)
Hot start
< 35 s (typical)
Signal Reacquisition
L1
< 0.5 s (typical)
L2
< 1.0 s (typical)
Time Accuracy
< 0.055 m/s RMS
Velocity Accuracy
< 0.025 m/s RMS

PHYSICAL AND ELECTRICAL

Dimensions
35 x 55 x 4 mm
Weight
12 g

Power
Input Voltage
> VDD +1.2 VDC ±5%
> VCC +3.3 VDC ±5%

Power Consumption
Dual frequency GNSS
1.5 W (typ.)

Signals to Module Interfaces
GNSS RF In
Up to 3
UART
Up to 3
USB 2.0 (Device, 12 Mbit/s)²
1
SPI (Host for IMU only)
1
PPS (Timemark)
1
Event In
2
Event out
1
CAN Bus
1
External LNA power control GPIO
2

ESD
Human body model
< ±2 KV

ENVIRONMENTAL

Temperature
Operating
-40°C to +85°C
Storage
-55°C to +85°C
Humidity
95% non-condensing at 40°C

Vibration
Random MIL-STD-810G Method 514.7
Category 24, (7.7 g RMS)
Sinusoidal
IEC 60068-2-6 (5.0 g)

OPTIONAL ACCESSORIES

• PIM7500 Evaluation Kit

FEATURES

• Field upgradeable software
• Differential GPS positioning
• Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, 3.2, 3.3, CMR, CMR+, RTCA and NOVATELX
• Navigation output support for NMEA 0183 and detailed NovAtel ASCII and binary logs
• Receiver Autonomous Integrity Monitoring (RAIM)
• Dual receiver ALIGN heading solution
• Multipath mitigating technology
• Pulse Per Second (PPS) output
• Interference Toolkit
• SPAN IMU integration via SPI

ABOUT HEXAGON POSITIONING INTELLIGENCE

Hexagon’s Positioning Intelligence division is a global technology leader, pioneering end-to-end solutions for assured positioning for land, sea, and air.

Learn more at hexagonpositioning.com.

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