

Atlas Duo INS

Point One Navigation's Atlas Duo INS is a standalone Inertial navigation reference system delivering our highest precision positioning with dual antennas for static heading and a weather-proof rugged chassis for harsh outdoor environments.



FEATURES

Multifrequency Dual Antenna
High Precision GNSS Receiver
with dual antenna inputs

Automotive grade (ASIL-B) IMU
with 6 Axis Gyro / Accelerometer

100Hz Position Update Rate with
6DOF output over Ethernet

64-bit Low-Power ARM Dual
Processor Architecture

Multi frequency GNSS antenna
with mag-mount, RF and weather-proof
Ethernet cabling

CAN and wheel encoder vehicle
odometry inputs (optional)

Configurable IO including PPS GPIO and
Gigabit Ethernet

Hosted UI and REST API control interface

CNC Aluminum Chassis with weather-
proof connectors

BENEFITS

Access to Polaris, the industry's highest
performance GNSS cloud RTK correction
service

IP67 rated for rugged protection from
water and dust

Dual Static Heading for automatic
calibration and continuous accuracy

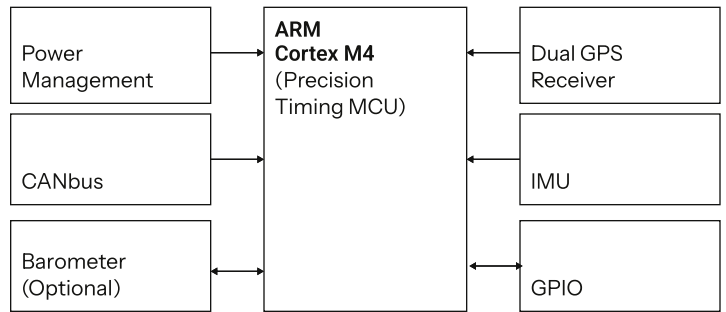
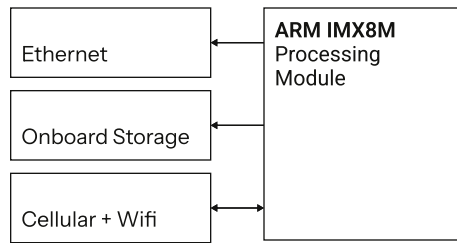
Tightly coupled sensor fusion with
integrated positioning engine software to
achieve centimeter-level accuracy

Simple plug-and-play setup with remote
access configuration, control, and data
logging

Schematics available for rapid integration
into customer platforms

ELECTRICAL

Input Voltage	5 – 48 VDC
Power (Typical)	3 Watts (non cellular)
Connections	Power, Ethernet, CAN, GPIO GPS RF (2x), Cellular (2x), Wifi
Configurable GPIO	Programmable time locked pulse generator (2 channels) or singular wheel tick input



PERFORMANCE

Open Sky	<10 cm, 1-sigma accuracy; 1 m PL, TIR = 10 ⁻⁷ , availability = 99%
Urban	<30 cm, 1-sigma accuracy; 3 m PL, TIR = 10 ⁻⁷ , availability = 99%

MECHANICAL

Dimensions	222 mm x 124 mm x 30mm
Enclosure	IP67
Weight	2.3 lbs
Storage	-40° C to +85° C (95% RH)
Operation	0° C to + 60° C (90% RH)
Vibration	TBD
Supports	1000BASE-T (Gigabit Ethernet) and 100BASE-TX

SUPPORT

GitHub	github.com/PointOneNav
Documents	pointonenav.com/docs/

NAVIGATION SPEC

Signal Tracking (Per Antenna)

GPS L1C/A, GLONASS G1, BeiDou B1-I, B1-C Galileo E1

GPS L2P codeless, L2C, GLONASS G2, BeiDou B2-

GPS L5, BeiDou B2a, Galileo E5a, BeiDou B3, Navic L5

OZSS, EGNOS, WAAS, GAGAN, MSAS, SDCM

Inertial

+/- 125 degrees/sec, +/- 6 g

Outputs

NMEA 0183 over Ethernet, Point One Fusion Engine open source library

Position Update 100 Hz

Dead Reckoning < 1.5 meters error over 10 minutes*

Static Heading 0.15° @ 1m, 0.03° @ 5m**

* Performance measured as typical with in-vehicle calibration and vehicle wheel speeds
 ** Specification is in open sky, RMS values independent of antenna/body calibration