

MICRO-MINIATURE INERTIAL NAVIGATION SYSTEMS

FEATURES

- Extended Kalman Filter
- Shock Survival up-to 8g
- Low Power & Cost Effective
- High performance MEMS gyro
- Miniature Size
- Weight: 42gms
- Industrial grade

APPLICATIONS

- Pedestrian and Soldier navigation
- Autonomous Control and ADAS
- Drone and UAV Navigation
- Autopilot
- Precision Pointing
- Driverless Cars

DESCRIPTION

Aeron's Micro-miniature Pollux INS is a family of extremely compact Inertial Navigation Systems. The systems run extended Kalman filter offering near tactical performance providing best estimates of navigation parameters including position, velocities, attitude, and heading. Pollux features tri-axial MEMS solid state accelerometers, tri-axial gyroscopes, magnetometer for heading measurement and an integrated multi-constellation GNSS.

Pollux is compact, low-powered and can fit in the applications where space is a constraint. It can feature in a wearable device to track assets in a battle management scenario and can be used for situational awareness for smart soldiers. The PLXNS20 model offers centimeter level (2.5cm) position accuracy in RTK mode.

PLX-NS20



TECHNICAL SPECIFICATIONS

Parameter Name	Parameter Value
	Pollux
	NS20
Acceleration	
Range	±8 g
Noise Density	25 µg / √Hz
Bias	±3.5 mg
Angular Rate	
Range	±250°/s
Noise Density	0.007 °/s / √Hz
Bias Instability	< 10°/hr
Position / Velocity Accuracy	
Position	2.5 m CEP with L1 GNSS, 2.5 cm CEP with L1 RTK
Velocity	0.2 m/s with GNSS (w/o RTK) < 5 cm/s with RTK
Attitude	
Roll Range	±180°
Pitch Range	±90°
Roll, Pitch Accuracy	0.2° (1σ) with GNSS aiding
Heading Range	±180°
Heading Accuracy ^{1,2}	0.5° (1σ) with GNSS aiding 1° (1σ) with Magnetometer
Angle Resolution	< 0.01°
GPS / GNSS Type	72 channels L1, GNSS (GPS, GLONASS, Beidou)
TTFF ³	29s
Electrical	
Input Voltage	5V - 15V
Power Consumption	< 3 W
Physical	
Weight	42 gms
Size	35mm (W) x 35 mm (B) x 17.5 mm (H)
Update rate	1 Hz / 5 Hz / 25Hz
Interface	RS232, USB, Additional RS232 for RTK Input
Environment	
Operating Temperature	-40°C to +85°C
Storage Temperature	-45°C to +90°C
Humidity	10% to 90% RH (non -condensing)
Survival Shock	upto 8g
IP Protection	IP65

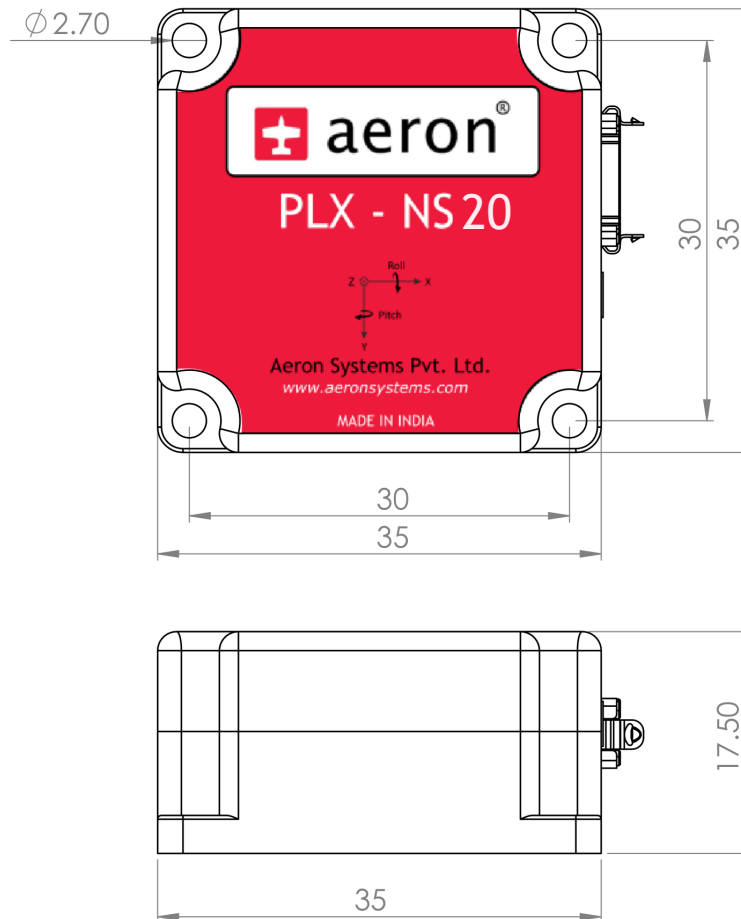
1 - Accuracy after magnetic calibration and setting correct declination / offset angle

2 - After magnetic calibration for Hard Iron and Soft Iron disturbances, and in static magnetic field

3 - Time To First Fix

MECHANICAL DIMENSIONS

All dimensions in mm.



ORDERING INFORMATION

PLX - NS20 (Product Code: 17002)