

COMET IMU Azimuth and Position Sensor

Hybrid GPS inertial based sensor



Description

COMET IMU is an armored, hybrid GPS/ inertial based sensor which delivers 9 mil (1σ) accuracy attitude data (azimuth, pitch and roll) as well as position data - continuously. The integrated 3-axis inertial measurement unit (IMU) provides azimuth data continuity during short periods of interruption of GPS reception as well as a high data output rate. COMET IMU is fully qualified for armored vehicles, is battle proven, and has been in operational service in large quantities for years.

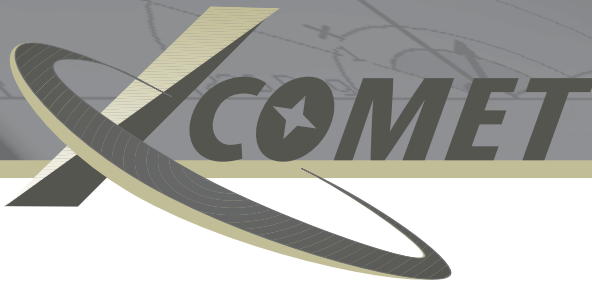
COMET IMU is a member of the COMET family of azimuth and position sensors. These sensors constitute a breakthrough enabling technology in that they deliver the basis for a common battlefield language – azimuth angles and location coordinates – at an affordable price thereby making battlefield management and the fully coordinated digital battlefield an affordable reality.

Applications

- armored vehicles of all kinds – primary sensor for BMS fire coordination and navigation systems
- armored vehicle upgrades
- anti-tank guided missile systems
- remotely controlled weapon stations
- elevated, mast-mounted sensor systems

Key Features

- affordable and cost-effective – a fraction of the cost of inertial sensors
- accurate and reliable – compatible with a wide variety of military applications
- autonomous stand-alone unit - easily integrated into any system
- automatic azimuth backup when GPS interrupted
- field installable, externally mounted
- armored housing
- combat proven
- unaffected by the magnetic environment
- no drift
- high data output rate for dynamic environments
- very low total cost of ownership



Outline Specification

weights and dimensions	
dimensions LxWxH cm	78 x 15 x 9 approx
weight	12 Kg approx
Performance	
azimuth accuracy	9 mils (1 σ) – pitch and roll within $\pm 15^\circ$
pitch & roll accuracy	9 mils (1 σ) – pitch & roll within $\pm 15^\circ$
position accuracy	GPS < 5m CEP / DGPS < 1.5m CEP
setup time – warm start	< 150 sec
performance – GPS reception interrupted	
*azimuth accuracy – 30 minutes	2 degrees RMS- pitch and roll within $\pm 15^\circ$
interfaces	
data output rate	50 Hz max
communications	RS 232, RS 422 /485 – parallel operation
power	18-32 VDC – 24 VDC nominal
power consumption	<25 Watts @ 24V
connector	D38999/24WC35PA
matching cable connector	D38999/26WC35SA
source protection	MIL-STD 1275A
environmental – MIL-STD 810E	
operating temperature	(-)35°C to (+)55°C.
storage temperature	(-)40°C to (+)71°C
humidity	0% - 95% relative humidity
vibration	Method 514.4 Category 8 (Ground Mobile)
shock	40 g magnitude / 11 ms terminal sawtooth
electromagnetic	MIL-STD-461D, 462D
reliability and maintainability	
MTBF	7600 hr - calculated
Built in Test (BIT)	power up, periodic, user initiated
calibration interface	sensor axis factory calibrated to location bushings axis or to incorporated collimator



COMET on Merkava MBT

*typical movement scenario

Azimuth Technologies

15 Hataasiah St. POB 2497 Raanana 43654 Israel

Tel: 972-9-7612500, Fax: 972-9-7408767

E-mail: mkt@azimuth.co.il, Web site: www.azimuth.co.il

This document and the information contained are the property of Azimuth Technologies Ltd. and must not be disclosed to third parties or copied or used without prior written consent from Azimuth Technologies Ltd.