



## HIGH PERFORMANCE INS/GPS

Kearfott's state-of-the-art KN-4075 system offers a high performance, low weight and small size navigation solution for a wide variety of rotary and fixed-wing unmanned and manned aircraft applications. The KN-4075 belongs to a family of INS/GPS units which are designated the KN-4072, KN-4073 and KN-4074. The KN-4072/KN-4074 are the prime navigators chosen by the United States Air Force for the RQ-4A and RQ-4B **Global Hawk** UAV and our KN-4073B and KN-4073C lighter weight unit was chosen by the United States Navy and Army as the sole navigator for their advanced **Fire Scout** Vertical Tactical Unmanned Aerial Vehicle (VTUAV). The KN-4075 which features Kearfott's high performance T-24 Monolithic Ring Laser Gyro (MRLG) is designed to operate in conjunction with an embedded Differential and WAGE, RAIM and WAAS ready SAASM P(Y) Code GPS receiver for enhanced navigation performance and faster satellite acquisition. The KN-4075 is also available with an embedded C/A code only GPS receiver. The KN-4075 provides navigation, heading, attitude, velocity, position and  $\Delta\theta$ ,  $\Delta V$  for autopilot functions in various digital formats. Position accuracy of the KN-4075 in the free inertial mode is 0.8 (optional 0.5) nautical miles per hour.

The KN-4075 shares much of its production base with other Kearfott high volume tactical programs, assuring competitive pricing combined with the support and experience of Kearfott's 50 years of leadership in the guidance industry, providing the user with a reliable INS/GPS for airborne applications.



### SYSTEM SPECIFICATIONS

<b>SIZE</b>	7.0" (L) x 7.0" (W) x 7.0" (H)
<b>WEIGHT</b>	5.45 kg (12 lb)
<b>POWER</b>	28 V dc (35 W) per MIL-STD-704A
<b>OUTPUTS</b>	Multiple RS-422 and RS-232 Ports with MIL-STD-1553B also ARINC 429 & Ethernet as Options External 100 Hz Clock for Synchronization
<b>COOLING</b>	Free Convection
<b>ENVIRONMENTAL REQUIREMENTS</b>	
• Altitude	-1,500 ft to +65,000 ft
• Temperature	-54°C to +71°C (Force 5)
<b>GPS RECEIVER</b>	L1/L2 Operating Frequencies SAASM P(Y) Code Differential and WAGE, RAIM C/A Code only GPS Receiver is Also Available
<b>MAINTENANCE</b>	No Recalibration Required

<b>PERFORMANCE SUMMARY</b>					
<b>INS/GPS PERFORMANCE</b>					
	<b>Continuous GPS Aiding</b>			<b>With GPS Outage (After 10 Minutes)</b>	<b>Free Inertial Performance (nm/hr)</b>
	P(Y)	DGPS	C/A		
Navigation Position; CEP (m)	<5	<2*	10	85	0.8**
Heading Accuracy (mrad), 1 $\sigma$	<1.0	<1.0	<1.0	<1.1	
Pitch/Roll Accuracy (mrad), 1 $\sigma$	0.5	0.5	0.5	<0.6	
Velocity (m/s), 1 $\sigma$	0.05	0.05	0.1	0.3	

\* Position performance can be improved to 40 to 60 centimeter accuracy

\*\* Free inertial performance can be improved to 0.5 nm/hr as an option

<b>OPERATING RANGES</b>	
Acceleration	30 g All Axes
Attitude (All Axes)	Unlimited
Roll, Pitch, Azimuth, Rate	400°/s
Roll, Pitch, Azimuth, Accel	10,000°/s <sup>2</sup>

***Please contact Kearfott Marketing at (973) 785-6555 or FAX at (973) 785-5905 or  
E-Mail: [marketing@kearfott.com](mailto:marketing@kearfott.com) for further information, including other air products: Sensor  
Packages, Gyroscopes, Inertial Measurement Units, Air Data Computers, Displays, CDU's, Flight  
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