

## MONOLITHIC RING LASER GYRO (MRLG) INERTIAL NAVIGATION UNIT (INU)

**KI-4902**

**HIGH  
PERFORMANCE  
INU KIT  
w/compact CCA's**

Kearfott's KI-4902 INU is ideally suited for those applications requiring high performance in a compact form factor.

Cost, performance and size advantages have been achieved by incorporating the T24 MRLG and a MOD VIIA Accelerometer Triad into an Inertial Sensor Assembly (ISA), and developing the associated INU electronics to fit on a compact card assembly.

The MRLG shown above as three assemblies, is designed for incorporation into a users end item and thus eliminates the requirement for a separate Line Replaceable Unit. A serial data RS-422 port provides integrate DVL/GPS/INS navigation.

- ALL NAVIGATION COMPUTATIONS
  - At Sea Moving align capable w/GPS aiding
  - Continuous "Align-On-The-Move"
  - Vehicle Dynamic Control
- MULTIPLE I/O PORTS
- INTERFACES WITH:
  - GPS
  - Sonar/Doppler
- SIMPLIFIED ELECTRONICS
- HIGH RELIABILITY, LOW LIFE CYCLE COST



PERFORMANCE SUMMARY**		
PARAMETERS	GYRO	ACCELEROMETER
Random Walk	0.003°/√h	0.05 m/s/√h
Bias Repeatability	0.005°/h	100 μg
Scale Factor Repeatability	50 PPM	100 PPM
Axis Alignment	15 arc-second	20 arc-second
Bias Stability	0.003°/h	50 μg
Vibration Rectification	N/A	15 μg/g <sup>2</sup> typical

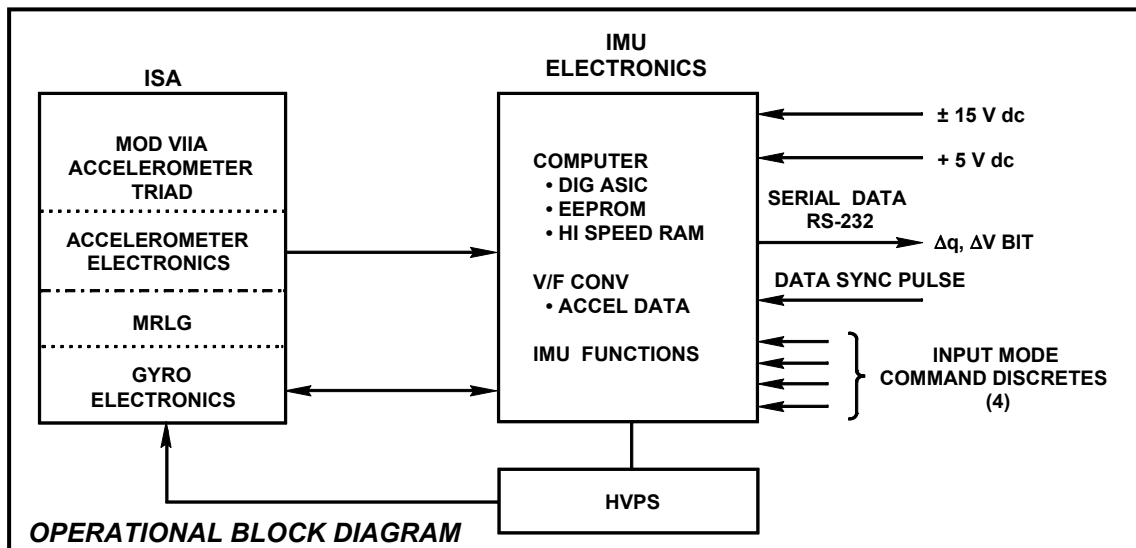
Note: All parameter values listed are 1σ

DYNAMIC CONDITIONS**	
Acceleration Range	40 g's *
Attitude	unlimited
Roll, Pitch and Azimuth Angular Rate	300°/s
Roll, Pitch and Azimuth Accelerations	10,000°/s <sup>2</sup>
Cooling	Free convection
Environmental Requirements	Per MIL-E-5400

PHYSICAL CHARACTERISTICS **	
Dimensions - ISA & IMU Electronics	ISA - 4.5" DIA. x 6.3" L, CCA's - 80 in <sup>2</sup>
Weight - ISA & IMU Electronics	8.5 lb (6.5 lb ISA, <2 lb CCA's/Heatsink)
Power	+15 V, -15 V, +5 V, and < 30 Watts
Activation Time	< 5 s
Maintenance	BIT, 95% coverage
Calibration Interval	None

\* Can be rescaled from 1 to 100g

\*\* Performance, Operating Ranges, and Characteristics are tailorable for specific applications



FOR FURTHER INFORMATION ON THIS HIGH PERFORMANCE APPLICATION,  
TACTICAL APPLICATION OR ANY OTHER PRODUCT APPLICATIONS,  
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