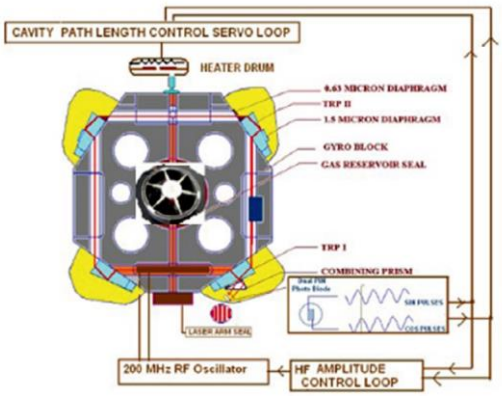
# ISRO Laser Gyro (ILG)

ISRO Inertial Systems Unit (IISU) indigenously designed, developed, qualified ring laser gyroscopes, called ISRO Laser GYRO (ILG), for the launch vehicle and spacecraft applications and inducted the same in ISRO's programs. The core technology of ILG is a RF excited, prism based square optical cavity resonator of 22 cm path length.




### Features:

- ILG is DC in – Angle out, miniature Ring Laser Gyro with 22cm path length.
- It is a Total Internal Reflection Prisms based, square cavity, active ring laser gyro.

### Major Performance Specification

1. Maximum rate: +400 deg/sec
2. Scale factor: 0.77 arc sec/pulse + 1%
3. Absolute Bias: < + 1 deg / Hr
4. Input axis misalignment: < 800 arc.sec
5. Scale factor Nonlinearity: <50ppm
6. Scale factor Asymmetry: <50ppm
7. Angle random walk: 0.02 deg/√ hr
8. Bandwidth: 17.2 + 1Hz (Software trimmable)
9. Magnetic sensitivity: 0.1 deg/hr/gauss
10. Temperature sensitivity of bias: <0.02deg/hr/ °C

### Performance Stability

- Bias stability (1σ): 0.1deg/hr
- Scale factor stability(1σ): <100ppm
- Misalignment stability(1σ): <10 arc.sec

### Physical Parameters

- Size: 136 mm dia X 100 mm height
- Weight:1.46 ± 1 kg
- Power (Nominal): 7 W

### Technology Transfer from ISRO

ISRO is willing to offer the knowhow of this technology to suitable entrepreneurs / industries in India. Capable manufacturing industries interested in acquiring this knowhow may write with details of their present activities, requirements and plans for implementation, infrastructure and technical expertise available with them and their own market assessment.