CHCNAV

CI-710

HIGH-PERFORMANCE IMU SENSOR



NAVIGATION &
INFRASTRUCTURE

CHCNAV



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The CI-710 from CHC NAVIGATION is a premium 6-DOF tactical MEMS IMU (Inertial Measurement Unit) designed for demanding applications. This state-of-the-art unit provides precise data on three-axis angular rates, three-axis accelerations and temperature information. Each module undergoes meticulous temperature compensation and turntable calibration at the factory to ensure high, consistent and reliable performance under extreme conditions. The CI-710 adheres to industry-standard dimensions and structure, and connects via an RS422 interface for broad compatibility and adaptability. It also features outstanding accuracy with a bias instability of only 0.5°/h, a fast-sampling rate of up to 1000 Hz and a robust shock resistance of up to 2000 g (0.5 MS sinusoidal half-wave). The CI-710 is particularly suitable for a wide range of applications, including portable SLAM mapping, map acquisition and dynamic positioning.

SPECIFICATIONS

Gyroscope Parameters (1σ)	
Output operating range	±400 °/s
Bias instability	0.5°/ h (Allan)
Cross-axis sensitivity	0.02 deg or 0.5‰
Response−3 dB frequency	47 Hz (Max. 260Hz)
Sampling rate	200 Hz (Max. 1000Hz)
Bias error over temperature	10°/ h (-40°C ~ 85°C RMS)
Angular random walk	0.1°/√ hr
Sensitivity error	1.0‰
Non-Linearity	100 ppm
Accelerometer Parameters (1σ)	
Output operating range	±6 g
Bias instability	20 μg (Allan)
Cross-axis sensitivity	0.02 deg or 0.5‰
Response−3 dB frequency	47 Hz (Max. 260 Hz)
Sampling rate	200 Hz (Max. 1000 Hz)
Bias error over temperature	1.0 mg (-40°C ~ 85°C RMS)
Angular random walk	0.035 m/s/√h

Environmental	
Storage temperature	-55°C ~ 90°C
Operating temperature	-40°C ~ 85°C
Shock impact	2000 g (0.5 ms, half-sine, 3-axis)
Shock resistance	10 g (10 ~ 2 KHz, 3-axis)
Physical and Electrical	
Interface	RS422*1, ExtTrig/PPS_IN*1
Power supply	4.5 V ~ 5.5 V
Power consumption	< 1 W
Size	38.6 mm x 44.8 mm x 21.5mm
Weight	48 ± 5 g

* All specifications are subject to change without notice.

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