

组合导航系统

Integrated Navigation System

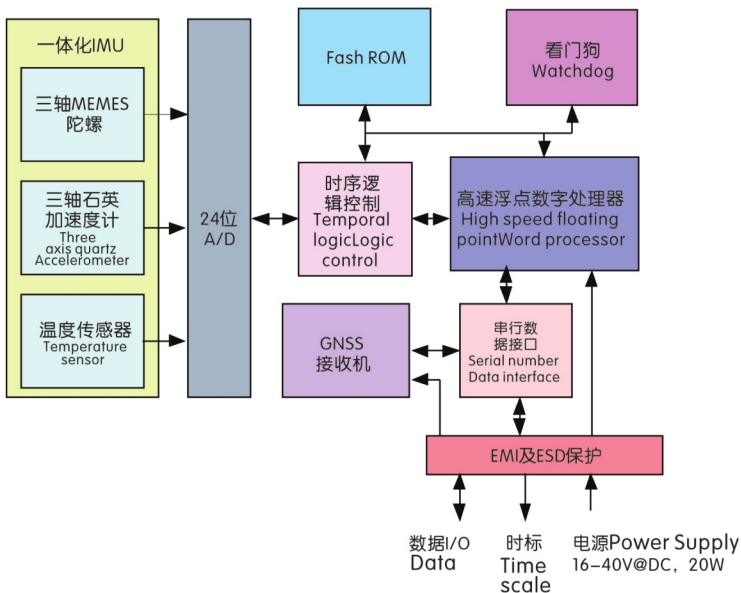
CEDK-042

CEDK-042组合导航系统由高性能固态MEMS陀螺和石英挠性加速度计以及高动态性能、小型化的16通道GNSS接收机组成。采用紧耦合方式，利用专用的Kalman滤波对MIMU及GNSS数据进行最优融合获得高精度的导航结果。为各种高性能、低成本导航、制导与控制系统提供小型化、重量轻、低成本解决方案。

HD1-2是高可靠性、固态GNSS/MIMU组合导航系统，能为载体提供高数据更新率的实时九维导航参数，可以应用于空地导弹、空空导弹、无人机、无人车等方面。

CEDK-042 integrated navigation system consists of high-performance solid MEMS gyroscope and quartz flexible accelerometer and high dynamic performance, miniaturization of 16 channel GNSS receiver. Adopting the tight coupling method, we get high precision navigation results from the optimal fusion of MIMU and GNSS data with dedicated Kalman filter. to provide the miniaturization, light weight, low cost solution for a variety of high performance and low cost navigation, guidance and control system.

CEDK-042 is a solid-state MIMU/GNSS integrated navigation system with high reliability, which can offer high real-time data update rate for carrier 9 d navigation parameters, can be applied to empty, empty missiles, unmanned aerial vehicles, unmanned vehicle, etc.



性能指标:

通电时间: <60S

定位精度: 纯惯导 (RMS), 60米/2分钟(1 σ)
组合 (RMS), 10米(1 σ)姿态精度: 纯惯导 (RMS): 0.5度(1 σ) (2分钟内,
不考虑初始对准误差), 组合 (RMS), 0.1度(1 σ) 速
度精度: 纯惯导 (RMS): 0.5米/秒(2分钟内) (1 σ)
组合(RMS): 0.1米/秒(1 σ)

传感器技术指标:

陀螺:

测量范围: ± 100 度/秒, ± 200 度/秒, 或按要求定制启动时间: ≤ 1 秒分辨率: ≤ 0.01 度/秒线性度: $\leq 1\%$ 短期稳定性: ≤ 10 度/小时带宽 (Hz): > 50 Hz

加速度计:

测量范围: ± 30 g内任选零位偏值: ≤ 0.005 g (稳定性 5×10^{-5})标度因数: $1.33 \pm 10\%$ mA/g (稳定性 5×10^{-5})

物理特性:

外形尺寸: 120*120*138 (mm)

工作环境: 航天弹上或航空机载

信号输出格式: RS232、RS422或按要求定制

数据率: 姿态100Hz, 位置速度10Hz或定制

输出信息: 位置、速度、姿态角、时间

供电电压: 直流电源16~40V

功耗: 小于20W

Performance Index:

conduction time: <60S

positional accuracy: (RMS), 60m/2m(1 σ)
(RMS), 10(1 σ)Alignment precision: (RMS): 0.5 (1 σ) (regardless of the
initial alignment error within 2 minutes)
(RMS), 0.1 (1 σ)Speed accuracy: (RMS): 0.5m/s (in 2 minutes) (1 σ)
(RMS) 0.1m/s(1 σ)

Performance index:

Gyro:

Measurement range: ± 100 d/s, ± 200 d/s, or
customizedstart time: ≤ 1 sresolution ratio: ≤ 0.01 d/slinearity: $\leq 1\%$ short-time stability: ≤ 10 d/hbandwidth (Hz): > 50 Hz

accelerometer:

Measurement range: ± 30 g optional within ± 30 gZero bias: ≤ 0.005 g (stability 5×10^{-5})scale factor: $1.33 \pm 10\%$ mA/g (stability 5×10^{-5})

physical characteristics:

dimension: 120*120*138 (mm)

working condition: Space bomb or Airborne

Signal output format: RS232, RS422 or customized

data rate: attitude 100 hz, location speed 10 hz or
customized

output signal: Position, velocity and attitude Angle, time

Voltage: 16~40V D.C

power: max 20W

