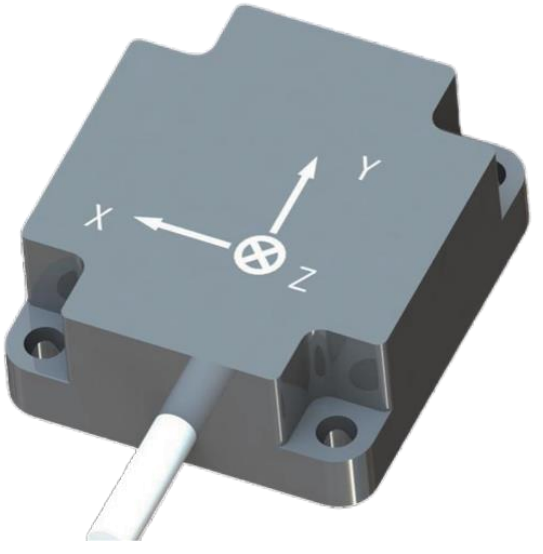
Inertial Measurement Unit

MU232



MU232 adopts the inertial measurement unit (IMU) of high precision gyroscope and accelerometer, and carries out the internal parameter compensation of the full temperature range. The angular velocity and linear acceleration of the output carrier can maintain a high measurement accuracy for a long time. Advanced MEMS process, structural sealing design and other measures to ensure the adaptability of the product in the harsh environment The product is suitable for measurement, navigation and control of aircraft, vehicle, robots, water vehicle, photoelectric pod and other carriers

Features

- Strong adaptability: silicon micro MEMS device, strong vibration and shock resistance.
- High device accuracy: very low noise gyroscope, zero bias stability 5° / h (10s smooth).
- Good user experience: support RS-422 interface, support output bandwidth, support output protocol, support online upload.
- Program / parameters.
- The maximum output frequency is 2000 Hz.

Specifications

Gyroscope

Measuring range:
± 500° / s (configurable to ± 2000)

Scaling factor repeatability:
<100ppm

Scale due to nonlinearity:
<200ppm□

Zero-bias stability (Allan variance):
1.5 ° / h □

Zero-bias stability (10s smoothing):
5 ° / h

Angular velocity random walk:
<0.2 ° / hr

Bandwidth:
200Hz (customizable)

Accelerometer

Measurement range:
± 16

Scale factor nonlinearity:
0. 1%

Zero-bias stability:
0.2 mg

Resolution:
0.2mg

Measurement range:
± 16

Physical characteristics

Operating voltage:
4.5 ~ 5.5V DC (typical value 5V)

Power consumption:
250 mW

Communication interface:
RS-422

Operating temperature:
-40℃ ~ + 60℃ (customizable-55℃ ~ + 85℃)

Dimensions:
22mm 20mm 8.7mm

MTBF :
50000h

Impact limit:
2000g (charged)

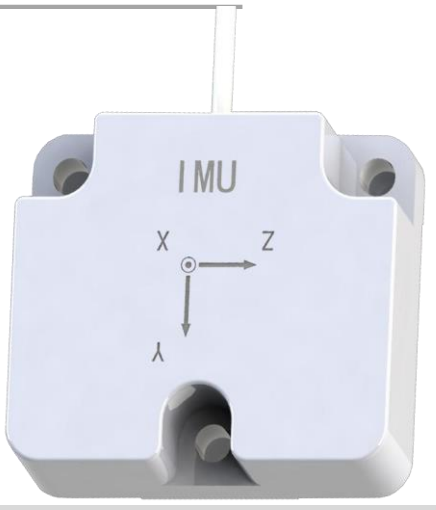
Weight:
not more than 15g

Output frequency:
1~2000Hz

Working vibration:
8g, RMS (20Hz-2 kHz)

Inertial Measurement Unit

MU863B



The MU863B product is an inertial measurement unit (IMU) equipped with a built-in gyroscope and accelerometer. The full temperature range parameters of the electronic components used are compensated internally. The angular velocity and linear acceleration of the output carrier can maintain high measurement accuracy for a long time. Advanced MEMS process, structural sealing design and other measures are adopted to ensure the adaptability of the products in the harsh environment. The product is suitable for measurement, navigation and control of aircraft, vehicles, robots, water vehicles, photoelectric pods and other carriers. The product can replace the same performance products and low-precision fiber gyro products, providing customized services according to the needs of users.

Features

-Small volume, low power consumption; □
-High bandwidth, low latency; □
--40℃ to + 80℃ to full temperature calibration compensation; □
-Resistance to the harsh mechanical environment; □
-With the software online upgrade function; □
-The maximum output frequency is 2,000 Hz.

Specifications

Gyroscope

Measuring range:
500/s, customizable

Zero partial stability:
≤ 0.5/h (Allan Curve， 1σ)

Zero partial stability:
≤ 2/h(10s smoothing,1σ)

The scale factor is nonlinearity:
≤ 100ppm

The angular velocity is a random walk:
≤ 0.125°/√hr

Tape width:
250 H z(customizable)

Noise:
0.125/s

Accelerometer

Support Frequencies:
433m、900M、2.4G、5.2G、5.8G、1.4G

Working Temperature :
-40 to +70℃

Working Time:
7*24H

Power supply:
AC 110V-240V

Dimensions:
410mm×330mm×190mm

Physical characteristics

Source:
4.5 ~ 5.5V DC(Typical value 5V)

Power dissipation:
≤ 2 W

Storage + 85 temperature:
-55 ~+ 85℃

Working temperature:
-40 ~ +60℃

Refresh rate:
≤ 2000Hz

Start time:
≤ 2s

Vibrate:
12g， RMS

MTBF:
50000h

Lash:
Charged2,000g

CI :
RS-422

Size:
44.8mm×38.6mm×16.5mm

Weight:
Not more than 50g

Broadband Ad hoc Network Onboard Module

The airborne self-organizing network radio is mounted on the launch platform and achieves long-distance communication across regions through aerial multi-point relay and dynamic cluster networking.

it can be mounted on various heterogeneous launch platforms, with low network latency and large scale, up to 256 nodes.

Suitable for various scenarios such as swarm operations, forest fire prevention, reconnaissance and search, and power inspections.

Features

- With high bandwidth,
- low power consumption,
-small size,
-light weight,
-rich interfaces

Specifications

Network

Networking mode:
Point to point, point to multipoint, star network, chain network, mesh network

Network size:
≥64

Power on and network connection time:
≤30s

Multi hop capability:
≥63

Single hop delay:
≤3ms

Encryption:
AES128

RF

Receiver sensitivity:
≤-97dBm @1Mbps@5MHz; ≤-93dBm @7Mbps@10MHz

Working bandwidth:
5MHz、10MHz、20MHz, customizable

Working frequency band:
200MHz-1800MHz, customizable

User rate:
maximum speed≥80Mbps

Output power:
2×1W(Average power)

Physical characteristics

Overall machine:
Maximum power consumption of 16W, average power consumption of 7W

Power supply:
12～30V

Data interface:
100Mbps Ethernet

Main antenna interface:
SMA

[ilot lamp:
Signal strength indicator light

Protective class:
IP67

Operation temperature:
-40℃～+55℃

Storage temperature:
-55℃～+70℃

Volume:
110×58×15mm

Weight:
134g

Broadband Ad hoc Network OEM Module

Small in size and light in weight, it is easy to integrate into various systems and is suitable for being equipped on drones, unmanned ships, robots, or other unmanned equipment.

Featuring fast deployment, high compatibility, lightweight and compact design, low power consumption, and high bandwidth.

Rich interfaces, flexible networking, and ready to use upon startup, it can provide IP transparent transmission channels for upper level applications such as video, voice, and data.

Specifications

Network

Networking mode:
Point to point, point to multipoint, star network, chain network, mesh network

Network size:
≥64

Power on and network connection time:
≤30s

Multi hop capability:
≥63

Single hop delay:
≤3ms

Encryption:
AES128

RF

Working frequency band:
200MHz-1800MHz, customizable

Working bandwidth:
5MHz、10MHz、20MHz, customizable

User rate:
maximum speed≥80Mbps

Receiver sensitivity:
≤-95dBm @1Mbps@5MHz ;
≤-93dBm @7Mbps@10MHz

Output power:
2×0.5W、2×1W、2×2W(customizable),Double sending and double receiving

Physical characteristics

Overall machine:
Maximum power consumption of 30W, average power consumption of 6W（ 2x2W）

Operation:
Supports voice intercom, video image and IP data transmission

Power supply：
10~30V DC power supply

Audio and video data：
2×100Mbps Ethernet

Main antenna interface：
2×SMA

Pilot lamp：Signal strength indicator light

Volume：
70×36×17.5mmm m (2×2W size)

Weight：
≤65g

Protective class：
IP67

Handheld Ad Hoc Network Individual Terminal

Individual handheld self-organizing network radios are an ideal choice for achieving rapid communication between individuals and teams in complex and harsh environments.

No need to rely on communication base stations, network access in 3 seconds, reorganization in 5 seconds, quickly build a broadband distributed network, and achieve real-time interaction of voice, data, video and other information.

Far superior to communication methods such as intercom, cluster, and mobile phones, it is suitable for various scenarios such as cities, jungles, deserts, islands, potholes, and mountainous areas.

Specifications

Network

Networking mode:
Point to point, point to multipoint, star network, chain network, mesh network

Network ize:
≥64

Power on and network connection time:
≤30s

Multi hop capability:
≥63

Single hop delay:
≤3ms

Encry ption:
AES128

RF

Working frequency band:
200MHz-1800MHz, customizable

Working bandwidth:
5MHz、10MHz、20MHz, customizable

User rate:
maximum speed≥80Mbps

Receiver sensitivity:
≤-95dBm @1Mbps@5MHz ；≤-93dBm @7Mbps@10MHz

Output power:
2×0.5W,Double sending and double receiving

Physical characteristics

Overall machine:
Maximum power consumption of 13W, average power consumption of 5W（2x2W）

Battery life:
Working hours≥6h, standby time≥12h

Power supply:
9～30V

Audio and video data:
100Mbps Ethernet port, HDMI video interface, 3.5 audio interface

Main antenna interface:
TNC interface, omnidirectional antenna

WIFI antenna:
SMA

Storagea temperature:
-40℃～+55℃

pilot lamp:
Signal strength indicator light, battery level display light

Positioning antenna interface:
SMA

Volume:
148×75×30mm

Weight:
≤500g

Operation temperature:
-55℃～+70℃

Protective class:
IP67

Flight Control Module

The power supply is equipped with EMI filtering, surge resistance, and supports 50ms power outage maintenance capability, interface isolation design, integrated inertial navigation, digital barometer, GPS positioning and orientation.

Specifications

Electrical

Steady-state voltage:
DC12V~36V

Overall Power Consumption:
≯15W

CPU main frequency:
866.6MHz

RAM:
512MB@DDR3

FLASH:
32MB@QSPI

F-RAM:
2Mbit

Data Storage:
16GB@eMMC

Inertial navigation:
Three axis gyroscope, three-axis accelerometer, three-axis magnetic compass

Static pressure sensor:
115kPa

Dynamic pressure transducer:
-25～+25kPa

Isolation CAN:
2-way

Analog input:
4-way±10VDC

Isolation RS232:
4-way

IsolationRS422/RS485:15-way(RS422*13-way;
RS422/RS485*2;-way，Software configurable)

Discrete magnitude input:
4-wayPower/ON orGND/ON(Hardware configurable)

Discrete magnitude output:
8-wayPower/ON orGND/ON(Hardware configurable)

Positioning and directional function:
Support GPS、GLONASS、Galileo、BeiDou

Ethernet:
1-way10/100Mself-adaption

Physical characteristics

Color:
silver gray

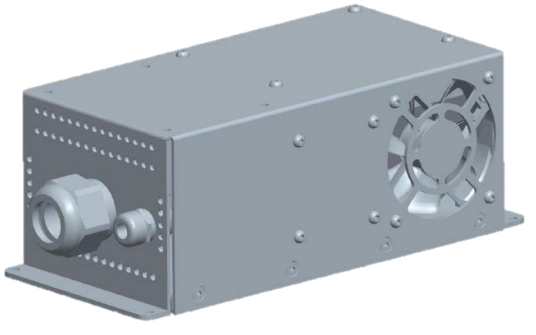
Weight:
662g

Maximum external dimensions:
≯150×110×60mm

Operation temperature:
-40℃～+55℃

Storage temperature:
-55℃~65℃

Power Management Unit
500W/1000w/3000w



Specifications

-Remote Power Generation

-Power Regulation from Alternative sources, ex. wind or solar

-Unmanned Air Vehicles (UAV’s) and Unmanned Ground

Specifications

	500w	1000w	3000w
power supply	3 Phase AC primary input, 25 - 95 VACrms	3 Phase AC primary input, 25 - 95 VACrms	3 Phase AC primary input, 25 - 95 VACrms
peak power	Operates up to 93%	Operates up to 91%	Operates up to 93%
Integrated start control	compatible with inductive and non inductive drive, with good start performance		