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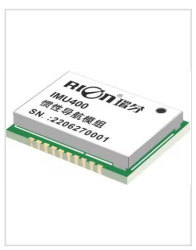

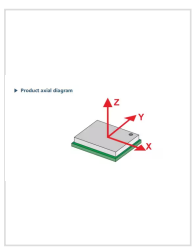

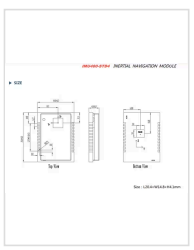

Rion Imu400 9 Axis Inertial Navigation Module For Automated Agricultura Machinery

Product Details

Place Of Origin: China

Brand Name: RION

Certification: CE, FCC,ROHS , ISO

Model Number: IMU400

Payment & Shipping Terms

Minimum Order Quantity: 100pcs

Price: US$29.50

Packaging Details: Carton With Safety Sponge

Delivery Time: 5-10 Days

Payment Terms: T/T Or Paypal

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Specifications Description

Specifications

Highlight: 9 axis inertial navigation module, automated agricultura machinery inertial navigation module

Triaxial Attitude:	Azimuth Angle ±180°，Roll ±180°，Pitch ±90°	Operational Bandwidth:	>100Hz
Resolution:	0.01°	Triaxial Gyro Range:	250°/s
Gyro Bias Instability(allan):	4.5°/h	Gyro Angle Random Walk Coefficient(allan):	0.25°/sqrt(h)
Gyro Bias Stability(10s Mean Value):	8.5°/h	Gyro Bias（@Temp. -10℃~+65℃）:	±0.25°/s（RMS）
Accelerometer Range:	±4g / ±8g(optional)	Accelerometer Resolution:	0.001g
Accelerometer Accuracy:	1mg	Accelerometer Bias Instability(allan):	0.05mg
Accelerometer Speed Random Walk Coefficient(allan:	0.015m/s/sqrt(h)	Accelerometer Bias Stability(10s Mean Value):	0.15mg
Starting Time:	500ms	Input Voltage:	DC3.3V(Ripple＜50mVpp）
Current:	70mA	Working Temperature:	-40 ~ +80℃
Storage Temperature:	-40 ~ +80℃	Working Life:	10 Years
Output Rate:	5Hz、15Hz、25Hz、35Hz、50Hz、100Hz Can Set	Output Signal:	3.3V-TTL
MTBF:	≥98000 Hours/time	Size:	L20.4×W14.8×H4.1mm

Weight:	≤5g

Description

Rion Imu400 9 Axis Inertial Navigation Module For Automated Agricultura Machinery

RION IMU400 INERTIAL NAVIGATION MODULE 9 AXIS OUTPUT SENSOR FOR AUTOMATED AGRICULTURA MACHINERY

▶ GENERAL DESCRIPTION

IMU400 is a gyroscope IMU specialized in agricultural machinery autopilot navigation applications, built-in industrial three-axis gyroscope and three-axis accelerometer. The product can still output smooth attitude data in the case of high vibration characteristics of agricultural machinery. It is developed based on MEMS inertial measurement platform. Through the dynamic attitude algorithm of the angular rate of the gyroscope, real time output the dynamic inclination, horizontal azimuth, three-axis angular rate, three-axis acceleration and forward axial body acceleration of the object ; It can also provide real-time feedback counting output through Z-axis single axis integral output to make the front wheels of agricultural machinery turn at a precise angle; This product is specially used for automatic agricultural machinery, precision operation, and efficiency. It is an essential component of the new generation of automatic precision agricultural control.

▶ KEY FEATURES

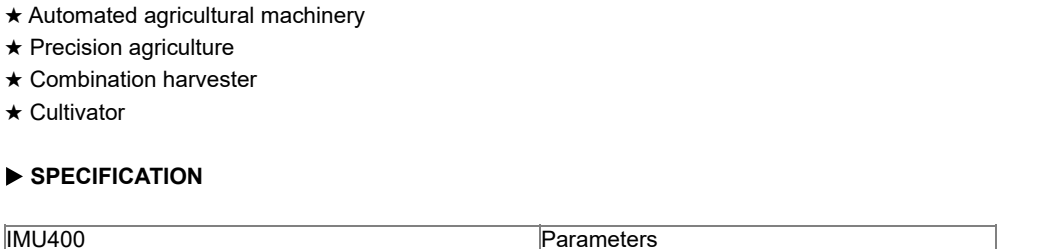
★ Horizontal azimuth angle & attitude angle output
★ Real time output angular rate
★ Light weight
★ Long life,strong stability
★ Forward axis acceleration output
★ All solid state
★ Compact & light design
★ TTL output
★ 3.3VDC power supply

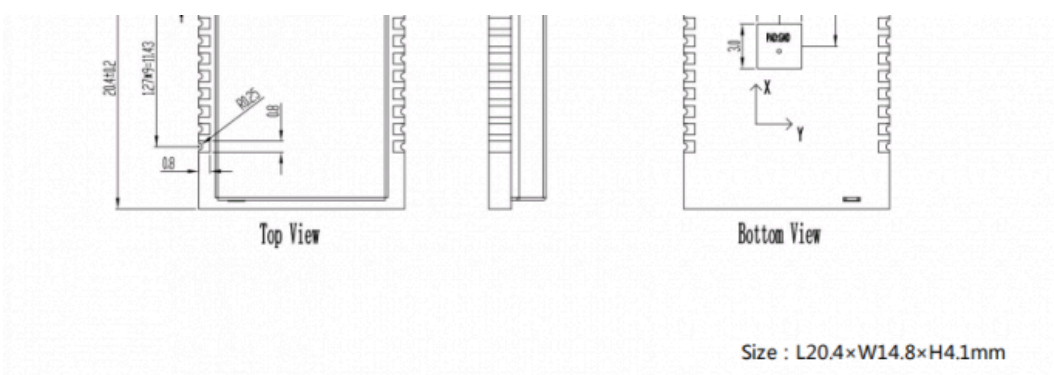
▶ APPLICATION

★ Automated agricultural machinery
★ Precision agriculture
★ Combination harvester
★ Cultivator

▶ SPECIFICATION

IMU400			Parameters
Triaxial attitude			Azimuth Angle ±180°,Roll ±180°,Pitch ±90°
Operational bandwidth			>100Hz
Resolution			0.01°
Nonlinear			0.1% of FS
Gyro	Triaxial gyro range		250°/s
	Bias instability(allan)		4.5°/h
	Angle random walk coefficient(allan)		0.25°/sqrt(h)
	Bias stability(10s mean value)		8.5°/h
	Gyro bias(@Temp. -10℃~+65℃)		±0.25°/s(RMS)
Accelerometer	Range		±4g / ±8g(optional)
	Resolution	Test conditions @4g range	0.001g
	Accuracy		1mg
	Bias instability(allan)		0.05mg
	Speed random walk coefficient(allan)		0.015m/s/sqrt(h)
	Bias stability(10s mean value)		0.15mg
Starting time			500ms
Input voltage			DC3.3V(Ripple＜50mVpp)
Current			70mA
Working temperature			-40 ~ +80℃
Storage temperature			-40 ~ +85℃
Vibration			5g~10g
Impact			200g pk,2ms,½sine
Working life			10 years
Output rate			5Hz,15Hz,25Hz,35Hz,50Hz,100Hz can set
Output signal			3.3V-TTL
MTBF			≥98000 Hours/time
Impact resistance			100g@11ms,3 Axial Direction (Half Sinusoid)
Anti vibration			10grms,10～1000Hz
Weight			≤5g





▶ PIN DEFINITION

Pins	Network	Description
1	BOOT0	MCU BOOT0 pin,suspended or lowered normal startup
2	RESET	MCU Reset pin, low level reset
3	GND	Power GND
4	GND	Power GND
5	GPIO1	MCU GPIO pin(spare)
6	VCC(3.3V)	Power input
7	NC	Empty
8	NC	Empty
9	GND	Power GND
10	VCC(3.3V)	Power input
11	NC	Empty
12	NC	Empty
13	UART3_RX	MCU Serial port 3 receiving,TTL level ,RESERVED
14	UART3_TX	MCU Serial port 3 sending,TTL level,RESERVED
15	GPIO2	MCU GPIO pin(Spare)
16	UART1_TX	Module main serial port sending,TTL level
17	UART1_RX	Module main serial port receiving,TTL level
18	GND	Power GND
19	SWDIO	MCU SWD Pins for debugging and upgrading
20	SWCLK	MCU SWD Pins for debugging and upgrading

Tags:

High Resolution mems imu sensor IMU MEMS Inertial Measurement Unit

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Imu400 Multi Axis Inertial Navigation Module Ins Ttl Interface

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