



UM332

BDS/GPS/GLONASS/Galileo High precision RTK module

Product Introduction

UM332 is the high precision positioning and heading RTK module developed by Unicore Communications, targeting light Robots, UAVs, intelligent vehicles, GIS information collection, etc.

By employing a single UC4C0(432 channel tracking) baseband chip and a single RF chip, using single-sided SMD packaging, UM332 can achieve smallest size(30x40mm) among industry high accuracy heading and positioning output. . It can simultaneously track BDS B1/B3 + GPS L1/L2 + GLONASS L1/L2+Galileo E1.It can maintain excellent application experience even in the most challenging environments such as urban canyons, by deploying anti-interference function block and on board MEMS device.

Application Fields

- UAV
- Robots, Robotic lawn mower
- High precision GIS
- ADAS, Intelligent Driving
-

Product Characteristics

- Support GPS L1/L2 + GLONASS L1/L2 + BDS B1/B3 + Galileo E1
- Based on 432 channel Nebulas II GNSS SoC 30*40mm, smallest multi-system multi-frequency high precision module
- Simultaneous output of positioning and heading, 20Hz update rate
- Instant RTK initialization and long-distance RTK
- Enhanced multi-system multi-frequency RTK technology, JamShield Adaptive narrow-band anti-interference and U-AutoAlign multi-path mitigation
- On board MEMS integrated navigation, support improved U-Fusion integrated navigation algorithm
- SMD packaging
- Support odometer input and external high performance IMU interface*

¹ Unicore Nebulas™ -II (UC260) is a multi-system multi-frequency high performance SoC chip, which supports all existing GNSS, including BDS B1/B2/B3, GPS L1/L2/L5, GLONASS L1/L2 and Galileo E1/E5a/E5b.



UM332

BDS/GPS/GLONASS/Galileo
High precision RTK module

Technical Specifications

Performance Specifications

Channels	432 channels, based on Nebulas-II chip	Heading Accuracy(RMS)	0.2 (1m baseline)
Frequency	BDS B1/B3 GPS L1/L2 GLONASS L1/L2 Galileo E1	Velocity Accuracy(RMS)	0.03m/s
Single point positioning(RMS)	Horizontal : 1.5m Vertical : 3.0m	Time to First Fix (TTFF)	Cold start <45s
DGPS(RMS)	Horizontal : 0.4m Vertical : 0.8m	Initialization time	< 10s (typical)
RTK(RMS)	Horizontal : 1cm+1ppm Vertical : 1.5cm+1ppm	Initialization reliability	> 99.9%
		Time to First Fix(TTFF)	< 50s
		Reacquisition	<1s
		Correction	RTCM 2.x /3.x
		Data Output	NMEA-0183 , Unicore*
		Update Rate	20Hz
		Time accuracy (RMS)	20ns
		Power Consumption	1.8W

Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Power Supply (VCC)	Vcc	3.0	3.3	3.6	V
Peak Current	Iccp			8.8	A
Voltage Input Low	Vin_low_1	-0.3		VCC x 0.3	V
Voltage Input High	Vin_high_1	VCC x 0.7		VCC + 0.3	V
Voltage Output Low	Vout_low	0		0.45	V
Voltage Output High	Vout_high	VCC - 0.45		VCC	V
Input Gain	Gant	27	30	36	dB
Noise Figure	Nftot	2.5	3.3	3.5	dB
LNA (Master Antenna)	ANT1_PWR	3.0	5	5.5	V
LNA (Slave Antenna)	ANT2_PWR	3.0	5	5.5	V

Functional Ports

3x UART, 1xI2C, 1x SPI (LV-TTL)
1x PPS (LV-TTL),
1x Event input

Physical Specifications

Size	30 x 40 x 4 mm
Weight	8g
Temperature	Working : -40°C~+85°C Storage : -55°C~+90°C
Humidity	95% No condensation
Vibration	GJB150.16-2009,MIL-STD-810
Shock	GJB150.18-2009,MIL-STD-810

Note: * represents optional configuration

CONTACT US

Address:F3, BDStar Navigation Building, No.7,
Fengxian East Road, Haidian, Beijing, P.R.China,100094
Tel:+86-10-69939800 Fax:+86-10-69939888
E-mail:info@unicorecomm.com