

TQ-NC305

RTK GNSS Positioning & Heading Receiver



Overview

TQ-NC305 receiver is a new-generation satellite positioning and heading receiver developed based on self-developed high-precision GNSS chip. It supports multi-system full-frequency-band signals and realizes 20 Hz RTK positioning and dual-antenna heading calculation. Equipped with built-in 4G module, embedded Ntrip protocol and cloud-chip integrated SDK, it supports standalone RTK, remote OTA and remote control. Featuring ultra-compact size and high integration, it targets various high-precision positioning & heading scenarios for unmanned vehicles, small-size AGVs, UAVs, USVs, intelligent driving and precision agriculture.

Product Features

- Adopt self-developed multi-system full-band GNSS chip
- Support multi-constellation & multi-frequency signals with configurable frequency combinations: BDS B1I,B3I,B2a; GPS L1C/A,L2P(Y)/L2C,L5; GLONASS G1,G2; Galileo E1,E5a,E5b; QZSS L1C/B,L2C,L5; SBAS L1C/A
- Real-time 20 Hz RTK positioning plus dual-antenna heading solution
- IP65 protection rating, 1.2 m drop resistance
- Rich interfaces: RS232 serial port and 4G for data communication
- Built-in 4G, Ntrip protocol and cloud-chip integrated SDK for one-click RTK; support remote OTA and remote control

Applications

- Unmanned Aerial Vehicle (UAV)
- Unmanned Surface Vehicle (USV)
- Cleaning Robot
- Autonomous Logistics Vehicle
- Small-size AGV
- Intelligent Driving
- Precision Agriculture



Technical Specifications

Category	Item	Parameter
Satellite Signal	Primary Antenna Supported Signals	BDS B1I, B3I, B2a GPS L1C/A, L2P(Y)/L2C, L5 GLONASS G1, G2 Galileo E1, E5a, E5b QZSS L1C/B, L2C, L5 SBAS L1C/A
	Number of Channels	1408
Positioning Accuracy (RMS)	Single-point Positioning	Horizontal: 1.2 m Vertical: 2.5 m
	DGPS Positioning	Horizontal: 40 cm Vertical: 80 cm
	RTK Positioning	Horizontal: 0.8 cm + 1 ppm Vertical: 1.5 cm + 1 ppm
Heading, Timing & Velocity	Heading Accuracy (RMS)	0.1° for 1 m baseline
	Time Accuracy (RMS)	20 ns
	Velocity Accuracy	0.03 m/s
	Position Update Rate	20 Hz
	Heading Update Rate	20 Hz
	Cold Start Time	< 30 s
	Position Output Protocols	NMEA-0183, Unicore
	Differential Data Protocol	RTCM V3.X
Electrical Characteristics	Supply Voltage	9-36 VDC
	Power Consumption	< 3.5 W
Environmental Characteristics	Operating Temperature	-40 °C ~ +75 °C
	Storage Temperature	-55 °C ~ +85 °C
	Vibration	GJB150.16A-2009
	Shock	GJB150.18A-2009
	Ingress Protection	IP65
Hardware Interfaces	Serial Port	3 × RS232, max baud rate 921600
	Main Antenna Port	1 × SMA-KFB2G3 (SMA)
	Auxiliary Antenna Port	1 × SMA-KFB2G3 (SMA)
	4G Antenna Port	1 × SMA-KFB2G3 (SMA)
Physical Characteristics	Dimension	110 × 65 × 30 mm(excluding connectors)
	Weight	220 g