

product-info.md

DroneCAN H-RTK F9P Helical

- Handle: `dronecan-h-rtk-f9p-helical`
- Vendor: PCBA
- Product type: GPS & RTK System
- Store URL: <https://holybro.com/products/dronecan-h-rtk-f9p-helical>

Description

Overview The DroneCAN H-RTK F9P is the latest differential high-precision GNSS positioning system from Holybro. It has adopted the DroneCAN protocol for communication. It provides multi-band RTK with fast convergence times and reliable performance, concurrent reception of GPS, GLONASS, Galileo, and BeiDou, and a fast update rate for highly dynamic and high-volume applications with centimeter accuracy. With the adoption of the DroneCAN Protocol, it has up to an 8 Hz navigation update rate, upgradeability, noise immunity, and real-time features, and is more robust than UART due to its increased resistance to electromagnetic interference. It does not occupy any serial port of the flight controller, and multiple CAN devices can be connected to the same CAN bus via a hub. The DroneCAN-F9P uses a u-blox ZED-F9P module, an IST8310 (legacy: BMM150) compass, and a tri-colored LED indicator, and is equipped with the STM32G4 processor running at 170 MHz with 512 KByte Flash and 96KByte RAM. It supports DroneCAN firmware upgrades via the DroneCAN GUI Tool. It is compatible with the open-source Pixhawk series flight controller. Now supports software toggle for CAN termination resistance RTK Testing & Comparison: Big GPS Round Up by Andrew Tridgell (ArduPilot) Please Note: The Status LED driver has changed. This LED is supported in PX4 1.14, ArduPilot 4.4.4 & later. (More info) Features We have designed two models of DroneCAN H-RTK F9P for you to choose from, each with a different size and antenna design to meet different customer needs. DroneCAN F9P Rover The Rover model has a flatter profile and stronger water resistance. It uses a dual-band patch antenna and comes with an integrated cable to connect to the CAN bus. It excels in spaces where there are few obstructions. You can find the purchase link for this product here DroneCAN F9P Helical This model uses a helical antenna, which has slightly better performance in space with obstructions than the Rover version. The antenna of this module can either be attached to the module directly or connected via a SMA cable, giving you the ultimate flexibility. It also has a UART2 port exposed, allowing you to do YAW/Heading (aka moving baseline). You can find the purchase link of this product here This model can be used either on the rover (aircraft) or as a base station. However, when used as a Base Station, RTK communicates with the Ground Control Station via USB, so the DroneCAN protocol is not used. You can consider using the standard H-RTK F9P Helical or Base for your Base Station. Specification & comparison DroneCAN H-RTK F9P Rover DroneCAN H-RTK F9P Helical Intended Application Rover (aircraft) only Rover (aircraft) or Base station GNSS Receiver U-blox ZED-F9P high-precision GNSS module U-blox ZED-F9P high-precision GNSS module Antenna Ceramic Patch Antenna with 20dB LNA Helical Antenna with 36dB LNA Processor STM32G473 STM32G473 Magnetometer BMM150 or IST8310 BMM150 or IST8310 (current) GNSS BeiDou, Galileo, GLONASS, GPS / QZSS BeiDou, Galileo, GLONASS, GPS / QZSS GNSS Band B1I, B2I, E1B/C, E5b, L1C/A, L1OF, L2C, L2OF B1I, B2I, E1B/C, E5b, L1C/A, L1OF, L2C, L2OF Positioning accuracy 3D FIX: 1.5 m / RTK: 0.01 m 3D FIX: 1.5 m / RTK: 0.01 m Communication Protocol DroneCAN 1Mbit/s DroneCAN 1Mbit/s Antennas Peak Gain (MAX) L1: 4.0dBi L2:1.0 dBi L1: 2dBi L2: 2dBi Time-TO-First Fix Cold start: ≤29s Hot start: ≤1s Cold start: ≤25s Hot start: ≤1s Navigation Update Rate RAW: 20Hz Max RTK: 8Hz Max RAW: 20Hz Max RTK: 8Hz Max Moving Base RTK: 5Hz Max Cable Length 27cm or 50cm N/A Antenna Connection Type N/A Board: SMA female Antenna: SMA male Working voltage: 4.75V~5.25V 4.75V~5.25V Current Consumption ~250mA ~250mA Dimensions Diameter: 80mm Height: 20mm Board: 51.1*35*22.9mm Antenna Diameter: 27.5mm Antenna height: 59mm Weight 123g 61.2g Operating Temperature -20■ to 85■ -20■ to 85■ Sample Wiring Diagram For other technical details and user guide, please see the Documentation

Variants

- **Default Title**: \$219.00 — SKU `12037` — available=None

Options

- Title: Default Title