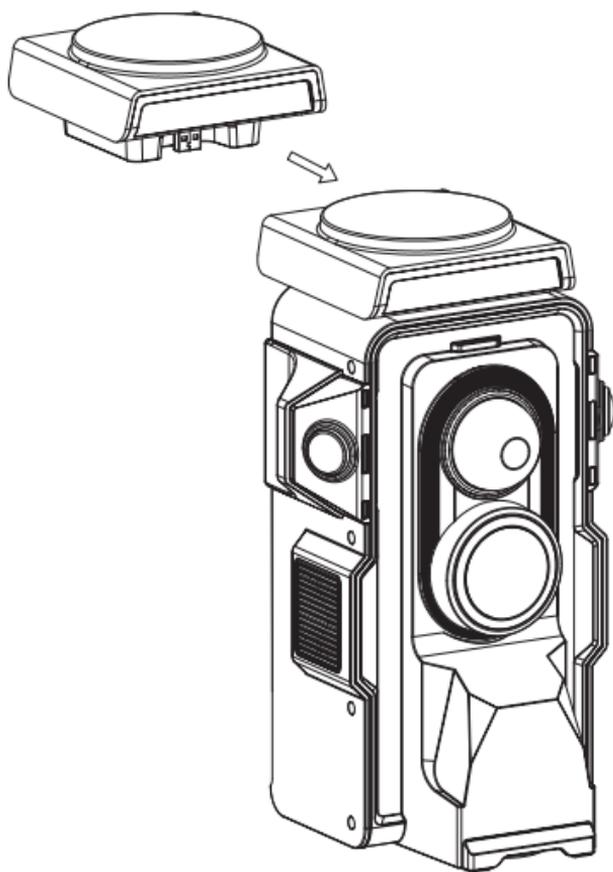


4DKanKan Meta

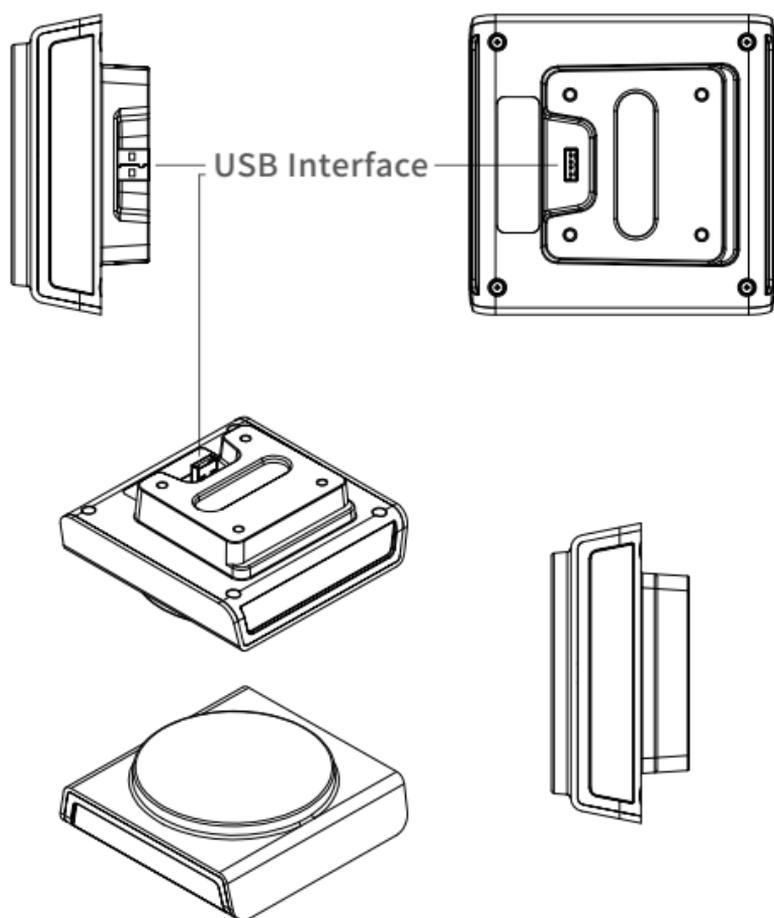
RTK Module User Manuals

V1.0



Thank you for purchasing and using the
4DKanKan Meta RTK Module.
Please read this manual before use.

4DKanKan Meta RTK Module



Product Introduction

The 4DKanKan Meta RTK Module is integrated with the high-precision measurement engine, navigation engine and functional safety engine. High-performance NRT-K/PPP/PPP-RTK solution, anti-jamming, L-Band and CLAS SBAS signal reception are supported to deal with harsh environments such as satellite signal interference and outage. The module can provide continuous, real-time and reliable high-precision position.

Speed Measurement Accuracy	0.03m/s(RMS)
Initialization Time	Cold start: $\leq 30s$ Hot start: $\leq 5s$
RTK Initialization Time	$\leq 5s$
INS Solution Delay	$\leq 5ms$
RTK Solution Delay	$\leq 5ms$
Anti-interference	65dBc (Interference to signal ratio) Multitone interference with 6 or more pulses; Narrowband interference whose bandwidth is not less than 10% of the signal bandwidth; Fast sweep interference.
L-Band	-133dBm (Sensitivity)
Temperature	Working: $-20^{\circ}C \sim +45^{\circ}C$ Storage: $0^{\circ}C \sim +55^{\circ}C$

In order to meet the market demand for continuous product improvement, 4DAGE reserves the right to change product design and specifications without prior notice.

Operation Instructions

1、Users need to make sure the RTK Module has been inserted into the top of the 4DKanKan Meta before creating a new scene, and enable the GNSS status in the upper right corner of the scene scanning page.

High Precision, Full Constellation & Frequency, Anti-Jamming GNSS Measurement and Positioning Engine

The integrated Bynav REAL (Ransac Enhanced Advanced Location) GNSS positioning engine has integrity monitoring to improve the fault tolerance and fixed solution rate under multipath and interference conditions in urban area, it can provide more stable and accurate results. The high-quantity signal preprocessing and interference suppression technology are adopted to deal with common interfering signals, it can greatly improve the availability and integrity of high-precision positioning.

L-Band/CLAS and NRTK/PPP/PPP-RTK

Beidou-3 B2b PPP solution, QZSS CLAS PPP-RTK solution and prevailing PPP-RTK differential service are supported to provide high-precision positioning in environments without conventional differential or mobile communication services. Beidou and Galileo four-frequency signals are used to greatly speed up PPP convergence and improve the availability of high-precision positioning.

Specification

Model	4DKanKan RTK Module
Weight	0.31 Kg
Material	Shell material ABS
Power	5V 1A
Size	111.1 mm * 111.2 mm * 50.1 mm (LWH)
Interface	USB

Communication Account	China Mobile CORS account or third-party Ntrip protocol CORS account
Place of Origin	Mainland China

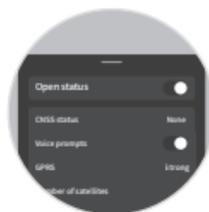
Performance

Indicator	Index
Signal	BDS B1I/B2I/B3I/B1C*/B2a/B2b* GPS L1 C/A/L1C*/L2/L5 GLONASS L1/L2 Galileo E1/E5a/E5b/E6* QZSS L1/L2/L5/L6(CLAS*) NAVIC L5 SBAS*L1 C/A L-Band
Number of Channels	1507
Measurement Accuracy	Carrier phase $\leq 1\text{mm(RMS)}$ Pseudorange: $\leq 0.1\text{m(RMS)}$
Output Rate of RTK Result	10Hz (Special Firmware Support 20Hz)
Single Point Positioning Accuracy	Horizontal: 1.5m(RMS) Vertical: 2.5m(RMS) Horizontal: 1.0cm+1ppm(RMS)
RTK Accuracy	Vertical: 1.5cm+1ppm(RMS)
Timing Accuracy	$\leq 20\text{ns(RMS)}$

2、Users can see the real-time status information of GNSS, HRMS and VRMS in the upper right corner of the page of the newly created scene. If the GNSS status is changed, the APP will prompt the GNSS status after the change of the current point position.



3、In the scanning page, click the RTK icon in the upper right corner to view the RTK data of the current scene.



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Operation Instructions

 NONE	(1) RTK Module service is not available. (NONE)
 SINGLE	(2) Single, the RTK Module can only pick up signals from one satellite. (SINGLE)
 FLOAT	(3) Float, the RTK Module can pick up signals from at least three satellites. (FLOAT)
 FIXED	(4) Fix, the RTK Module can pick up signals from at least four satellites. (FIXED)

It is recommended to make sure that the RTK status is "Fixed" when scanning outdoors, which will facilitate the accuracy of the scene data.

Switch CORS Account (Online Version)

1. Insert the RTK plugin into the top of the camera and power it on.
2. Please use the latest version of the 4DKanKan App to connect to the camera.
3. Once connected, use the app to connect the camera to an external Wi-Fi network.
4. After successful connection, go to the App's local interface and create a new shooting project.
5. Once in the shooting interface, tap the RTK icon in the top right corner.
6. In the RTK pop-up window, scroll to the last section and click "Go to Modify CORS Account."
7. In the redirected browser page, log in with your official account to record the information of the person making the changes.
8. After successful login, modify the CORS account that needs to be changed.
9. Once the modification is complete, return to the App's shooting interface and click to enable RTK.

Note: If the Cors account is provided by 4DAGE, you only need to contact customer service to switch or activate the Cors account.

After-sales Service

Thank you for purchasing and using the 4DKanKan Meta RTK Module.

This product has passed strict quality control. As described in the warranty card, we will provide free repair services in case of hardware failure due to quality problems during the warranty period.

Warranty Instructions (Warranty covers only the RTK Module itself, does not include accessories)

1. One year of free maintenance after you purchase this product.
2. The following circumstances will void the free warranty, 4DAGE will provide maintenance services, but maintenance should be charged for the corresponding accessories and labor repair costs:
 - ① Human factors, including the use of non-normal working environment, not in accordance with the instructions for use, caused by the damage.
 - ② User's private disassembly, self-maintenance, modification and other damage caused.
 - ③ Beyond the warranty period.