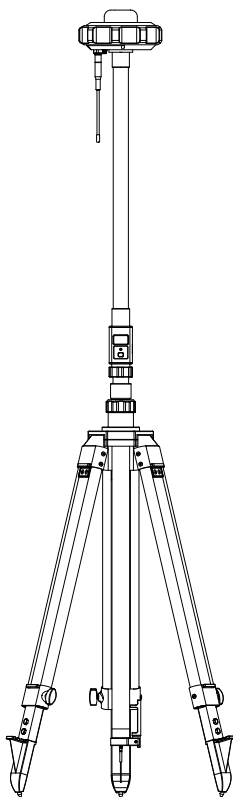


D-RTK Base Station

User Guide

使用说明

V1.0 2017.08



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Disclaimer

Thank you for purchasing D-RTK™ Base Station (hereinafter referred to as the “Product”). Read this disclaimer carefully before using this Product. By using this Product, you hereby agree to this disclaimer and signify that you have read it fully. Please use this Product in strict accordance with the manual and be sure to pay attention to the Warnings. SZ DJI TECHNOLOGY CO., LTD., and its affiliated companies assume no liability for damage(s) or injuries incurred directly or indirectly from using, installing or refitting this Product improperly, including but not limited to using non-designated accessories.

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This disclaimer is produced in various languages. In the event of divergence among different versions, the Chinese version shall prevail when the Product in question is purchased in China, and the English version shall prevail when the Product in question is purchased in any other region.

Warnings

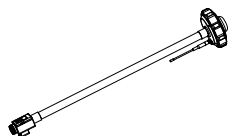
1. MG-12000S batteries are required for the D-RTK Base Station. Please purchase them separately and DO NOT use other battery models.
2. Only use the D-RTK Base Station in the corresponding frequency band and in accordance with local laws and regulations.
3. DO NOT bend or fold the cables excessively.
4. Ensure that the D-RTK Base Station is perfectly level when mounted and placed.
5. Only operate in an open environment free from radio interference. Turn off nearby devices using the same frequencies as the D-RTK Base Station (e.g. radio transceivers).
6. Ensure that the antennas of all the devices used are unobstructed when in use.
7. Only use genuine DJI parts or parts certified by DJI. Unauthorized parts or parts from non-DJI-certified manufacturers may cause the system to malfunction and compromise safety.
8. Ensure that the D-RTK Base Station and its components are free from contamination (e.g. water, oil, soil and sand).
9. DO NOT attempt to disassemble any part of the D-RTK Base Station that has already been mounted prior to shipping.
10. Handle the sharp ends of the tripod with caution.
11. Take necessary measures to protect the base station and batteries from water in rain, snow, and/or thunderstorms. Operate with caution in severe weather conditions.

Introduction

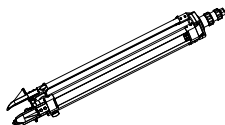
The D-RTK Base Station is a system specially designed to provide centimeter-level positioning accuracy for the AGRAS™ MG-1S RTK. Equipped with the built-in D-RTK ground system and Datalink Pro ground system and a tripod, it is easy and efficient to install and use. Depending on the region of purchase, the D-RTK Base Station uses either GPS and BeiDou or GPS and GLONASS to perform at the highest standards. It can be utilized with both the Agras MG-1S RTK and D-RTK Handheld Mapper. When using with the Agras MG-1S RTK, the aircraft's heading reference from the dual antennas of the onboard D-RTK is more accurate than a standard compass sensor and can withstand magnetic interference from metal structures. When using with the D-RTK Handheld Mapper, more accurate field planning can be achieved.

In the Box

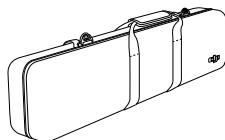
Base Station × 1



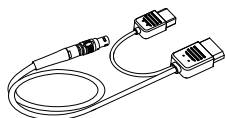
Tripod × 1



Carrying Case × 1



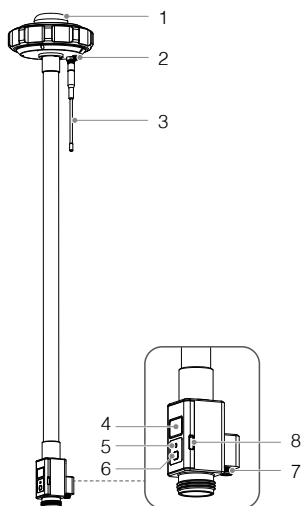
Power Cable × 1



Micro USB Cable × 1

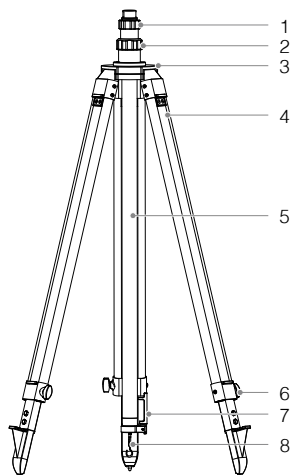


Overview



Base Station

1. D-RTK Antenna
2. Reserved Port
3. Datalink Pro Antenna
4. Screen
5. Link Button
6. Power Button
7. Power Port
8. Micro USB Port



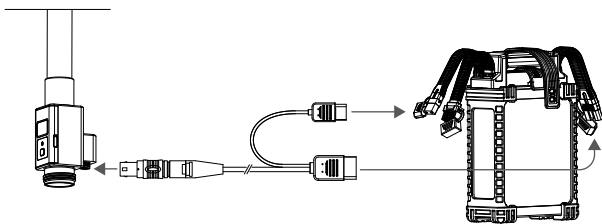
Tripod

1. Base Station Sleeve
2. Center Column Sleeve
3. Mount Base
4. Retractable Legs
5. Center Column
6. Knobs
7. Battery Holder
8. Payload Hook

Turn the Base Station On/Off

An MG-12000S battery is required for the power supply of the base station. DO NOT use other brands or types of batteries. The maximum run time of a fully charged battery is approximately 100 hours.

1. Connect one end of the power cable to the power port of the base station, and connect the other end to the XT90 port and battery communication port of the MG-12000S battery.



2. Press the power button of the base station once, again, and then hold to turn it on.

Activation

Make sure to activate the base station using DJI ASSISTANT™ 2 before first-time use.

1. Visit the official DJI website. Download and install the latest version of the DJI Assistant 2 software.
<http://www.dji.com/mg-1s/info#downloads>
2. Turn on the base station and connect it to your computer via a Micro USB cable.
3. Run DJI Assistant 2 and click "MG-1S RTK". Activate the device following the instructions in the pop-up window.
4. Restart the base station manually after activation.



DO NOT change any of the settings in DJI Assistant 2. Use the product under the default settings.

Enable/Disable RTK

When using with the MG-1S RTK aircraft, ensure that the "RTK Module" is enabled before each use. Go to Operation View in the DJI MG app > ●●● > RTK > RTK Module. Otherwise, RTK cannot be used for positioning.

Make sure to disable "RTK Module" if RTK is not used. Otherwise, the aircraft cannot take off when there is no RTK data.

Linking

The following description uses linking with the MG-1S RTK aircraft as an example. Refer to the D-RTK Handheld Mapper User Guide for additional linking instructions.

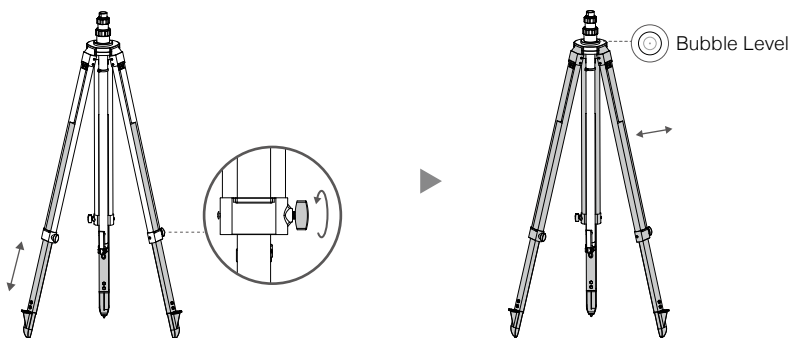
1. Turn on the base station. "GNSS" in the lower left corner of the screen indicates a successful start.
2. Power on the MG-1S RTK remote controller, then the aircraft.
3. Go to the DJI MG app > Operation View > ●●● > RTK, then tap "RTK Linking". A sound emitted from the remote controller indicates that the onboard D-RTK has initiated linking.
4. Press and hold the Link button on the base station for two seconds and it will beep for five seconds. "Linked" appearing in the DJI MG app during beeping indicates successful linking.

- If there is no device linked with the base station when beeping, it will exit linking and stop beeping automatically.
- Press the power button once to cancel when linking is initiated.
- Linking is required only for first-time use with the same aircraft. You can power off the base station and disconnect the power cable after linking successfully. The two will connect to each other automatically during future use.

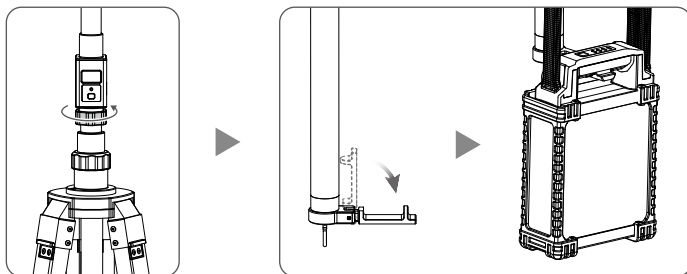
Setup and Usage

Choose an appropriate location to set up the base station. Mark the location to ensure that the base station can be placed at the same location after moving it.

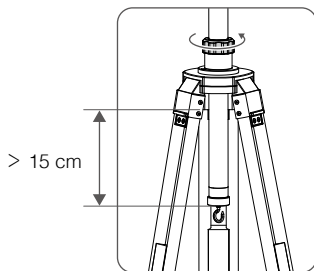
1. Unfold the tripod, stretch the three retractable legs to the desired length, and then tighten each of the three knobs.
2. Adjust the angle of each retractable leg so that the bubble of the bubble level on the mount base is located within the black circle (viewed from the top of the bubble level vertically) while keeping the tripod secure.



3. Attach the base station to the top of the tripod and tighten the base station sleeve.
4. Make sure that the MG-12000S battery is fully charged, connect it to the base station with the power cable, and then place it onto the tripod's battery holder.



5. Lift the center column of the tripod to adjust the base station to the desired height. Note that the distance between the end of the center column and the mount base of the tripod should be no less than 15 cm. Now tighten the center column sleeve.



6. Press the power button of the base station once, again, and hold to turn it on. Wait for the system to start searching for satellites. The lower left corner of the screen shows "GNSS" and the center shows "Ready" if RTK data is obtained and used.



- If the satellite signal of the base station is weak or the data transmission is not steady, turn it off and adjust its height. Then restart it.
- DO NOT move the base station if other devices are using the RTK data from it to avoid severe bias.
- DO NOT change the position or angle of the tripod or base station after the tripod has already been adjusted to be level, or else it should be readjusted.
- When using with the D-RTK Handheld Mapper to execute tasks in the same field, make sure that the base station is at the same location. Otherwise, the positioning accuracy and performance will be adversely affected.

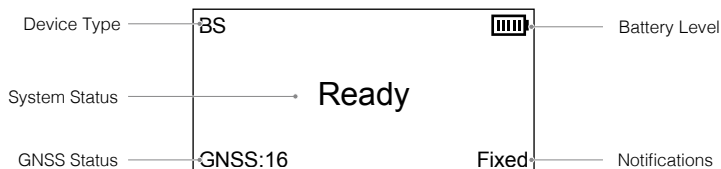


- Users can also hang payloads to the payload hook of the tripod to increase stability.

Screen

Interface Descriptions

The interface consists of five parts:



Display Descriptions

Determine the system status via prompts on the screen. Resolve any potential issues if an abnormal status is displayed.

Language can be switched to English or Chinese using DJI Assistant 2.

Displays	Descriptions
Device Type	
BS	Base Station.
System Status	
System Initializing	The system is initializing. The system will remain in this state for an extended time if there are not enough satellites for positioning. Turn it off and move the base station to a place where there is stronger satellite signal. Then restart it.
Ready	The base station is working normally.
Linking	Linking with the aircraft or handheld mapper.
Activate in Software	Device not activated. Connect it to DJI Assistant 2 for activation.
GNSS Status	
GNSS: XX	GNSS board initialization is successful. XX indicates the number of satellites.
N/A	GNSS board initialization failed. Contact DJI or an authorized dealer.
Notifications	
>>>--	Arrows will appear and disappear to indicate system initialization.
Fixed	The position of the base station is confirmed.

Updating Firmware

1. Turn on the mapper and connect it to DJI Assistant 2. There will be two connected devices.
2. Click each device and download the latest firmware on the Firmware Update page, and then follow the instructions to complete the updates. Make sure to update the firmware of both devices.
3. Restart the base station manually after updating.

Specifications

Power Supply	MG-12000S batteries
GNSS Frequency	Mainland China/South Korea: GPS L1&L2, BEIDOU B1&B2 CE/FCC: GPS L1&L2, GLONASS F1&F2
Communication Frequency Band	Mainland China: 430–432 MHz South Korea: 447.8625–447.9875 MHz CE: 869.525 MHz FCC: 903–925.5 MHz
Power Consumption	6 W
EIRP	Mainland China/South Korea: 10 dBm CE: 13 dBm FCC: 27 dBm

Weight (Carrying case excluded)	4.6 kg
Height (Base station with tripod)	2–3.2 m
Operating Temperature	0° to 45°C (32° to 113°F)

This content is subject to change without priority.

Download the latest version from
<http://www.dji.com/mg-1s>

免责声明

感谢您购买 D-RTK™ 基站。在使用之前，请仔细阅读本声明，一旦使用，即被视为对本声明全部内容的认可和接受。请严格遵守本文安装和使用该产品，并务必重视注意事项。因用户不当使用、安装、改装（包括但不限于使用非 DJI™ 指定的零配件）造成的任何损失，深圳市大疆创新科技有限公司及其关联公司将不承担任何责任。

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注意事项

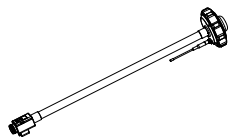
1. D-RTK 基站需配合 MG-12000S 电池使用，请自行购买。切勿使用其他型号的电池。
2. 根据当地无线电规定，使用对应频段的 D-RTK 基站，并遵守当地无线电法律法规。
3. 安装时请勿过度弯曲和折叠线材。
4. D-RTK 基站的安装和摆放一定要保证与水平面相对水平。
5. 在开阔、不受无线电干扰的环境中使用 D-RTK 基站。务必在关闭其他同频段的无线设备（如对讲机等）后再使用 D-RTK 基站。
6. 使用过程中请确保所有设备的天线均不受遮挡。
7. 使用原厂配件或经过 DJI 认证的配件。使用非原厂配件有可能对系统的安全使用造成危险。
8. 部件内部没有进入任何异物（如：液体、油、沙土等）。
9. 切勿自行拆下出厂时已安装的任何部件。
10. 三脚架底部较为尖锐，使用时务必小心。
11. 雨雪天气使用请对基站和电池采取必要的防水措施。雷电天气请谨慎使用，注意防雷。

简介

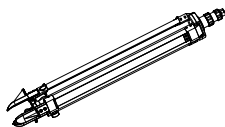
D-RTK 基站专为 DJI MG-1S RTK 农业植保机开发，可使定位精度由米级提升至厘米级。D-RTK 基站集成 D-RTK 地面端与 Datalink Pro 地面端，并配备三脚架，安装与使用更加简捷高效。D-RTK 基站可在不同区域提供 GPS+ 北斗或 GPS+GLONASS 的组合，确保优秀的定位性能。D-RTK 基站可与 MG-1S RTK 农业植保机或 D-RTK 手持测绘仪连接使用。配合 MG-1S RTK 农业植保机使用时，与指南针模块相比，机载端的双天线测向技术不仅精度更高，而且提供强大的抗电磁干扰能力，在高压线、金属建筑等强磁干扰的环境下保障可靠的作业飞行。配合手持测绘仪使用时，可实现更加精准的农田规划。

物品清单

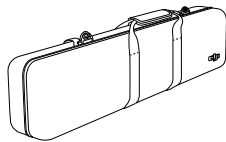
基站 × 1



三脚架 × 1



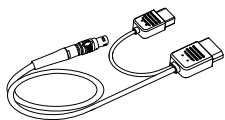
手提箱 × 1



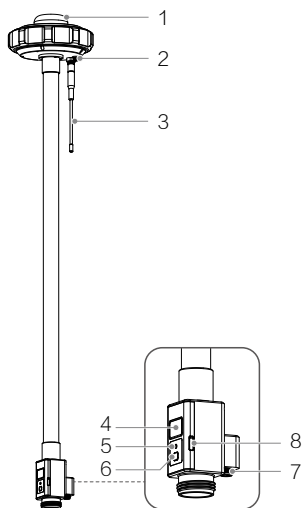
电源线 × 1

Micro USB 线 × 1

配件

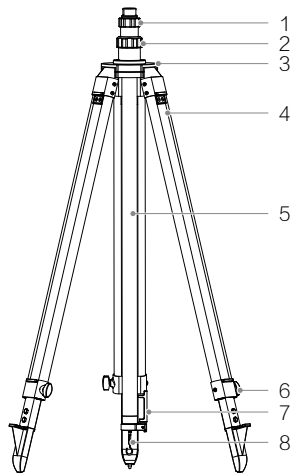


部件名称



基站

1. D-RTK 天线
2. 预留接口
3. Datalink Pro 天线
4. 显示屏
5. 对频按键
6. 电源按键
7. 电源接口
8. Micro USB 接口



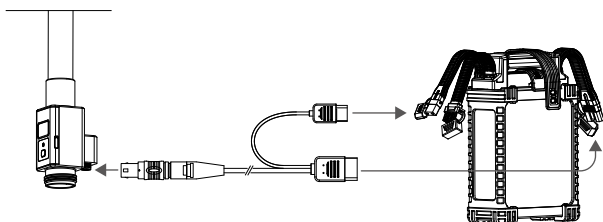
三脚架

1. 基站套筒
2. 中轴套筒
3. 基座
4. 伸缩杆
5. 中轴
6. 旋钮
7. 电池挂钩
8. 配重挂钩

开启 / 关闭基站

请自备 MG-12000S 电池为基站供电, 切勿使用其他型号的电池。电池充满电后可供基站使用 100 小时。

1. 将电源线一端连接至基站的电源接口, 另一端连接至 MG-12000S 电池的 XT90 接口和电池通信接口。



2. 短按一次基站电源按键, 再长按, 以开启或关闭基站。

激活

首次使用时, 必须在 DJI ASSISTANT™ 2 调参软件中进行激活。

1. 访问 DJI 官网, 下载并安装最新版本 DJI Assistant 2 调参软件。

<http://www.dji.com/mg-1s/info#downloads>

2. 开启基站, 使用 Micro USB 线连接至计算机。

3. 运行 DJI Assistant 2, 选择 “MG-1S RTK”, 在弹出的窗口中根据提示进行激活。

4. 激活完成后请手动重启基站。

! 切勿在 DJI Assistant 2 中更改任何参数设置, 使用出厂默认设置即可。

启用 / 关闭 RTK 模块

若配合 MG-1S RTK 飞行器使用, 则每次使用前, 检查确保 “RTK 模块” 开关已打开。进入 DJI MG App 作业界面 > ●●● > RTK > RTK 模块。否则将无法使用 RTK 定位。

若不使用 RTK 数据, 务必关闭 “RTK 模块” 开关, 否则在无 RTK 数据时飞行器将无法起飞。

对频

下文以与 MG-1S RTK 飞行器对频为例进行说明, D-RTK 手持测绘仪的对频方法参见《D-RTK 手持测绘仪使用说明》。

1. 开启基站。显示屏左下角显示 “GNSS” 表示成功启动。

2. 首先开启 MG-1S RTK 遥控器, 再连接 MG-1S RTK 飞行器电源。

3. 进入 DJI MG App 的作业界面 > ●●● > RTK, 点击 “RTK 对频”, 遥控器发出提示音进入对频状态。

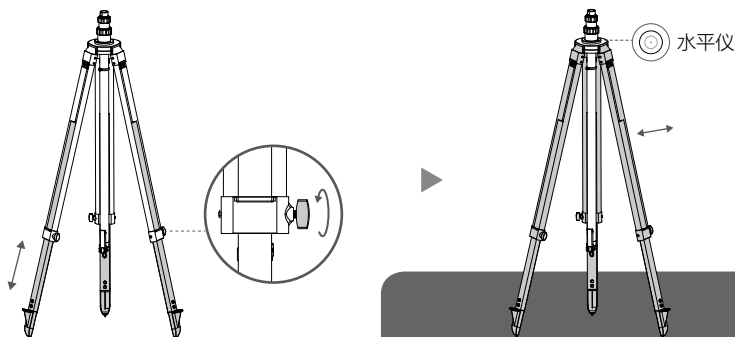
4. 长按基站上的对频按键 2 秒后松开, 基站会发出 5 秒的提示音, 其间 DJI MG App 显示 “对频完成” 表示飞行器与基站已成功对频。

- 💡 • 在基站发出对频提示音期间, 若未有设备与其成功对频, 则基站自动退出对频状态, 停止提示音。
- 如需中途退出对频, 可短按基站电源按键。
- 同一飞行器仅需进行一次对频, 对频完成后可关闭基站并断开电源线。再次使用时会自动连接。

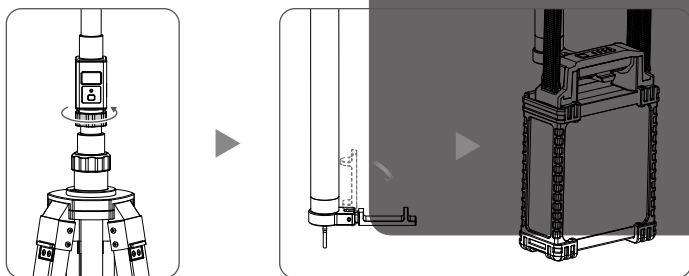
架设与使用

选择合适的地点架设基站，并作标记，以便基站被移动后可以准确复位。

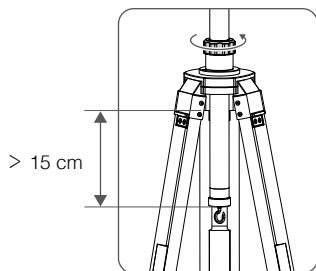
1. 撑开三脚架，将三根伸缩杆拉伸至合适长度，然后拧紧旋钮。
2. 调整每根伸缩杆的角度，使基座上水平仪中的气泡保持在黑色圆圈内（从水平仪垂直正上方观察），同时确保三脚架稳固。



3. 将基站安装至三脚架顶部，拧紧基站套筒。
4. 确保 MG-12000S 电池电量充足，使用电源线连接基站与电池，然后将其放置于三脚架上的电池挂钩。



5. 升起三脚架中轴调整基站至合适的高度，注意应在中轴底端与三角架基座之间保留至少 15 cm 的距离，然后拧紧中轴套筒。



6. 短按一次基站电源按键，再长按，以开启基站。等待搜星，显示屏左下角显示“GNSS”，中央显示“系统就绪”，表示已获取并使用 RTK 数据。



- 若基站卫星信号差或数据传输断续，请在关闭电源后调整基站高度，再重新开启电源。
- 其他设备正在使用基站的 RTK 数据时，切勿移动基站，否则将产生严重偏差。
- 三脚架调至水平后，请勿改变三脚架或基站的位置及角度，否则需要重新调平。
- 若配合 D-RTK 手持测绘仪使用，则在同一农田进行作业时，务必确保基站在同一位置，否则将严重影响定位准确性，从而造成作业效果偏差。



- 用户可在三脚架的配重挂钩下挂载负重，以增加三脚架的稳定性。

显示屏

界面说明

显示屏界面分为以下五个部分：



显示说明

使用时请根据显示屏的提示判断系统状态，若有异常请及时修复。

显示屏有中英两种语言显示，可在 DJI Assistant 2 调参软件中设置。

显示	描述
设备类型	
BS	表示基站。
系统状态	
系统初始化中	系统正在初始化。若长时间处于此状态，表示没有足够的卫星信号无法定位。请在关闭基站电源后将其移至卫星信号良好的位置，然后再重新开启。
系统就绪	基站可以正常使用。
对频中	正在与飞行器或手持测绘仪对频。
请连接调参激活	设备未激活，请连接至 DJI Assistant 2 调参软件进行激活。
GNSS 状态	
GNSS: XX	GNSS 板卡初始化成功，XX 表示卫星数。
N/A	GNSS 板卡初始化失败，请联系 DJI 技术支持或授权代理商。
提示信息	
>>>--	箭头符号“>”由少至多循环显示，表示系统正在初始化。
已定位	基站已成功定位。

固件升级

1. 开启基站并连接至 DJI Assistant 2，软件界面显示两个已连接设备。
2. 分别点击进入每个设备，在固件升级页面选择最新版本并根据提示进行升级。务必确保两个设备的固件都升级至最新。
3. 升级成功后需手动重启基站。

规格参数

电源	MG-12000S 电池
使用频点	中国大陆 / 韩国: GPS L1&L2, BEIDOU B1&B2 CE / FCC: GPS L1&L2, GLONASS F1&F2
通信频率	中国大陆: 430 - 432 MHz 韩国: 447.8625 - 447.9875 MHz CE: 869.525 MHz FCC: 903 - 925.5 MHz
功耗	6 W
发射功率	中国大陆 / 韩国: 10 dBm CE: 13 dBm FCC: 27 dBm
重量（不含手提箱）	4.6 kg
高度（基站 + 三脚架）	2 - 3.2 m
工作环境温度	0℃至 45℃

内容如有更新，恕不另行通知。

您可以在 DJI 官方网站查询最新版本
<http://www.dji.com/mg-1s>



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KCC Warning Message

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