



**QNAP**

# **TS-x31P3**

**TS-231P3**

**TS-431P3**

**用户指南**

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# 1. 前言





## 关于本指南

本指南提供有关 QNAP TS-x31P3 NAS 的信息以及有关硬件安装的分步说明。此外，还提供了有关基本操作和故障排除信息的说明。

## 受众

本文档的目标读者为用户和存储管理员。本指南假定用户已对存储和备份概念有基本了解。

## 文档约定

符号	描述
	注释，提供默认配置设置和其他补充信息。
	重要注释，提供有关所需配置设置的信息以及其他关键信息。
	提示，提供有关执行任务或配置设置的建议或备选方法。
	警告，提供警告信息，如果忽略此信息，可能会导致潜在损失、伤害甚至死亡。

## 2. 产品概述



本章提供有关 QNAP TS-x31P3 NAS 的基本信息。

### 关于 TS-x31P3

TS-x31P3 是一款用户友好的 NAS，专为家庭和办公环境而设计。此型 NAS 由 Annapurna Labs Alpine AL-314 四核 1.7 GHz 处理器和 DDR3L RAM 提供支持，配有充足的存储空间及文件备份和共享功能。TS-x31P3 可进行更为流畅的多媒体回放，并可确保数据安全，还具有各种本地、远程和云备份选项。此设备具有双硬盘架和四硬盘架型号，支持 SATA 6 Gbps 并兼容 SATA 3 Gbps。此 NAS 具有一个 2.5 Gb 以太网端口、一个千兆位以太网端口和三个 USB 3.2 Gen 1 端口。

### 硬件规格

订购部件号	硬盘架	内存	电源
TS-231P3-2G	2	2 GB	单个
TS-231P3-4G	2	4 GB	单个
TS-431P3-2G	4	2 GB	单个
TS-431P3-4G	4	4 GB	单个

组件	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
处理器	Annapurna Labs AL-314	
CPU	四核 1.7 GHz	
频率	ARM 32 位	
架构	AES-256	
加密引擎	内存	
预安装内存	<ul style="list-style-type: none"> <li>• 2 GB RAM: 1 x 2 GB DDR3L</li> <li>• 4 GB RAM: 1 x 4 GB DDR3L</li> </ul>	<ul style="list-style-type: none"> <li>• 2 GB RAM: 1 x 2 GB DDR3L</li> <li>• 4 GB RAM: 1 x 4 GB DDR3L</li> </ul>
内存插槽	1 x SODIMM DDR3L  <b>重要</b> <ul style="list-style-type: none"> <li>• 请仅使用 QNAP 内存模块，以保证系统性能和稳定性。对于有多个内存插槽的 NAS 设备，请使用规格相同的 QNAP 模块。</li> <li>• 使用不受支持的模块可能导致性能下降、引发错误或使操作系统无法启动。</li> </ul>	
最大内存	8 GB RAM: 1 x 8 GB	
闪存	512 MB (双重引导操作系统保护)	
存储		
硬盘架	2 x 3.5 英寸 SATA 6 Gbps	4 x 3.5 英寸 SATA 6 Gbps
	 <b>注</b> SATA 6 Gbps 向后兼容 SATA 3 Gbps。	

组件	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
硬盘兼容性	3.5 英寸硬盘架： <ul style="list-style-type: none"> <li>• 3.5 英寸 SATA 机械硬盘</li> <li>• 2.5 英寸 SATA 机械硬盘</li> <li>• 2.5 英寸 SATA 固态硬盘</li> </ul>  <b>提示</b> 有关兼容硬盘型号的列表，请转到 <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a> 。	
SSD 缓存加速支持	3.5 英寸硬盘架：1 至 2	3.5 英寸硬盘架：1 至 4
热插拔	支持	
网络		
千兆位以太网端口	1 x GbE RJ45	
2.5 Gb 以太网端口	1 x 2.5 GbE RJ45	
网络唤醒	是 (GbE RJ45)	
外部 I/O 端口和扩展插槽		
USB 端口	正面： 1 x USB 3.2 Gen 1 A 型   <b>注</b> 此 USB 端口支持一键复制。  背面： 2 x USB 3.2 Gen 1 A 型	
界面		
按钮	<ul style="list-style-type: none"> <li>• 电源</li> <li>• 重置</li> <li>• USB 一键复制</li> </ul>	
尺寸		
外形规格	立式	
尺寸 (高 x 宽 x 深)	161 x 102 x 219 mm (6.34 x 4.01 x 8.62 英寸)	161 x 160 x 219 mm (6.34 x 6.30 x 8.62 英寸)
净重	1.35 kg (2.98 磅)	3 kg (6.61 磅)
其他		
电源单元	90W, 100-240V AC, 50/60 Hz	
系统电池	CR2032 锂电池 (3V, 225 mAh)	
噪声声级	19.2 dB(A)	19.5 dB(A)
	 <b>注</b> 噪声声级在距 NAS 一米以内的旁观者位置测得。测试 NAS 安装了最大数量的硬盘以低速运行。	
风扇	系统：1 x 70 mm, 12V DC 风扇	系统：1 x 120 mm, 12V DC 风扇
工作温度	0°C 至 40°C (32 至 104°F)	

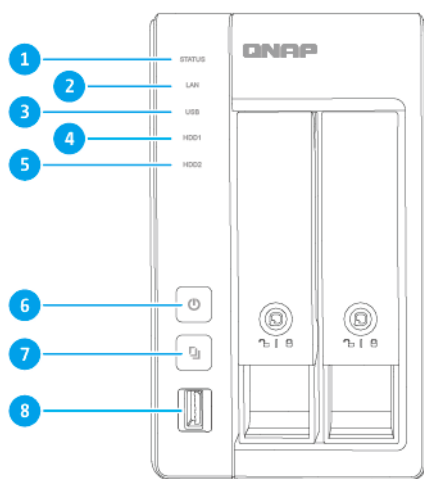
组件	TS-231P3-2G TS-231P3-4G	TS-431P3-2G TS-431P3-4G
相对湿度	<ul style="list-style-type: none"> <li>• 无冷凝相对湿度：5% 至 95%</li> <li>• 湿球温度：27°C (80.6°F)</li> </ul>	
安全锁孔	Kensington 安全锁孔	

**提示**

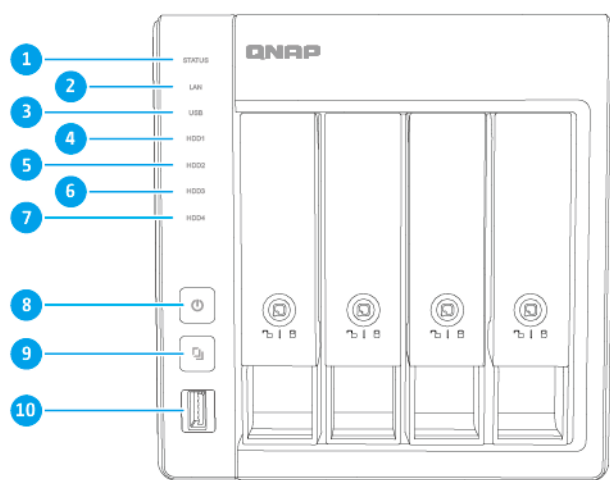
型号规格如有更改，恕不另行通知。要查看最新规格，请转到 <https://www.qnap.com>。

**包装内容**

项目	数量
TS-x31P3	1
交流电源适配器	1
电源线	1
以太网线	1 x Cat5e
硬盘托盘钥匙	2
适用于 3.5 英寸硬盘的螺丝	<ul style="list-style-type: none"> <li>• TS-231P3: 8</li> <li>• TS-431P3: 16</li> </ul>
适用于 2.5 英寸硬盘的螺丝	<ul style="list-style-type: none"> <li>• TS-231P3: 6</li> <li>• TS-431P3: 12</li> </ul>
快速安装指南 (QIG)	1

**组件****前面板**

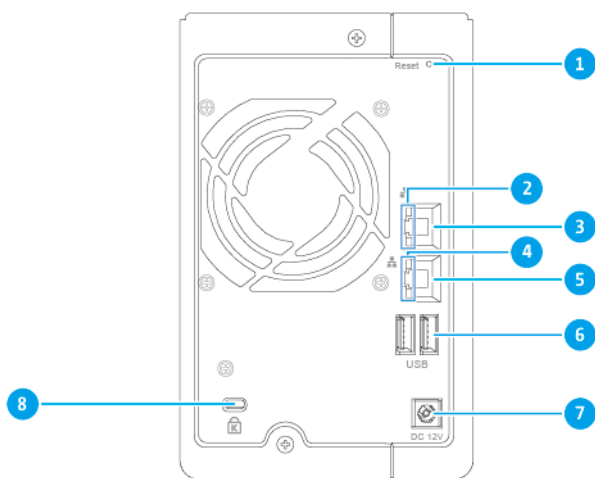
编号	组件	编号	组件
1	状态 LED	5	硬盘 2 LED
2	LAN LED	6	电源按钮
3	USB LED	7	USB 一键复制按钮
4	硬盘 1 LED	8	USB 3.2 Gen 1 一键复制 A 型端口



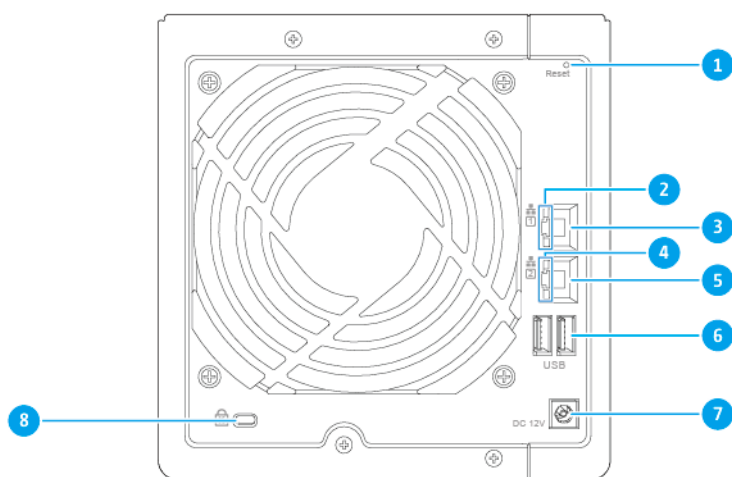
编号	组件	编号	组件
1	状态 LED	6	硬盘 3 LED
2	LAN LED	7	硬盘 4 LED
3	USB LED	8	电源按钮
4	硬盘 1 LED	9	USB 一键复制按钮
5	硬盘 2 LED	10	USB 3.2 Gen 1 一键复制 A 型端口



## 后面板

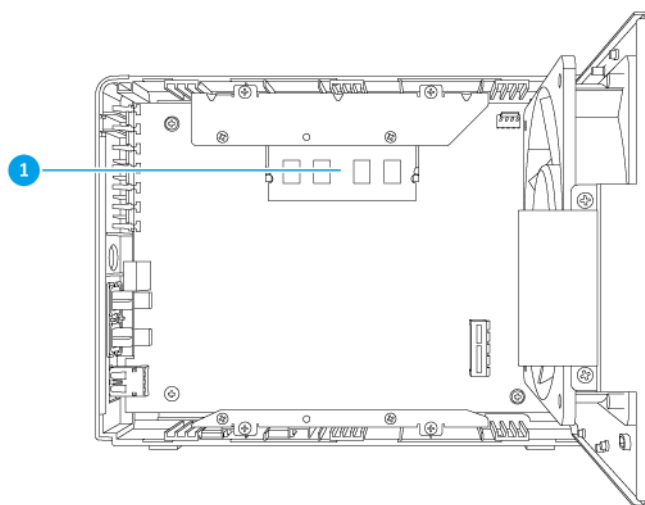


编号	组件	组件
1	重置按钮	5 千兆位以太网端口 <b>注</b> 只有此端口支持网络唤醒配置。
2	2.5 Gb 以太网 LED	6 USB 3.2 Gen 1 A 型端口
3	2.5 Gb 以太网端口 (RJ45)	7 电源端口
4	千兆位以太网 LED	8 Kensington 安全锁孔



编号	组件	编号	组件
1	重置按钮	5	千兆位以太网端口  注 只有此端口支持网络唤醒配置。
2	2.5 Gb 以太网 LED	6	USB 3.2 Gen 1 A 型端口
3	2.5 Gb 以太网端口 (RJ45)	7	电源端口
4	千兆位以太网 LED	8	Kensington 安全锁孔

## 系统主板



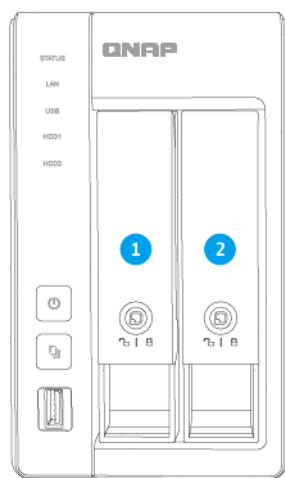
### TS-431P3



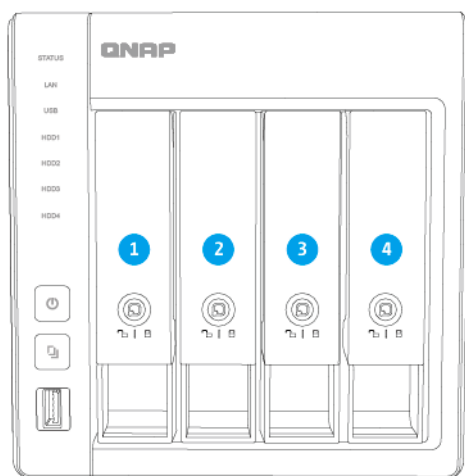
注  
图像不含机箱。

编号	组件	编号	组件
1	内存插槽	-	-

## 硬盘编号



### TS-231P3



### TS-431P3

## 安全信息

以下说明有助于确保个人安全和环境安全。在执行任何操作之前，请仔细阅读这些说明。

### 一般说明

- NAS 应存放在通过器具、锁和钥匙或任何安保措施限制进入的安全场所。
- 只有经过授权并掌握技能的合格人员才能实际接触 NAS，相关人员需了解所有限制措施、安全预防措施和安装维护流程。
- 为避免潜在伤害或组件的损坏，请务必等硬盘和其他内部系统组件冷却后再触碰。

- 请执行静电放电 (ESD) 规程，以避免可能的人员受伤或组件受损。

## 电源

- 为降低失火或触电风险，请确保只将电源线连接到接地良好的电源插座。



配备冗余电源的设备可能有一条或多条电源单元 (PSU) 线。为避免受到严重伤害，安装或更换系统组件前，经培训的维修技师必须先从设备拔下所有 PSU 线。

## 系统电池

- 为避免潜在的电池爆炸、导致人员受伤或组件受损，请确保使用同型电池更换现有电池。
- 请按当地法规或电池制造商的指示正确处置使用过的电池。

## 运动的部件



**转动的风扇叶片：** 在设备连接到电源时，使您的身体各部位远离正在转动的风扇叶片。



**运动的组件：** 使您的身体各部位远离正在运动的其他组件。

## 安装要求

类别	项目
环境	<ul style="list-style-type: none"> <li>• 室温：0°C 至 40°C (32 至 104°F)</li> <li>• 无冷凝相对湿度：5% 至 95%</li> <li>• 湿球温度：27°C (80.6°F)</li> <li>• 平坦的防静电表面，无直射阳光、液体或化学药剂</li> <li>• 无可能阻塞 NAS 通风或者压住 NAS 或电源线的物品</li> </ul>
硬件和外围设备	<ul style="list-style-type: none"> <li>• 存储硬盘</li> </ul> <p> <b>提示</b> 有关兼容扩展卡的列表，请转到 <a href="https://www.qnap.com/compatibility">https://www.qnap.com/compatibility</a>。</p> <ul style="list-style-type: none"> <li>• 网线</li> </ul>

类别	项目
工具	<ul style="list-style-type: none"> <li>• 1 号或 2 号十字螺丝刀</li> <li>• 防静电腕带</li> </ul>

## 设置 NAS



### 重要

在设置 NAS 或安装 NAS 组件之前，请仔细阅读[安全信息](#)中的所有安全要求和信息。

1. 将 NAS 设备置于符合要求的环境中。  
有关详细信息，请参见 [安装要求](#)
2. 安装硬盘。  
有关详细信息，请参见以下内容：
  - [在 3.5 英寸托盘上安装 3.5 英寸硬盘](#)
  - [在 3.5 英寸托盘上安装 2.5 英寸硬盘或固态硬盘](#)
3. 连接电源线和所有适用的线缆。
4. 启动 NAS 电源。
5. 安装 QTS。  
有关详细信息，请参见 [QTS 安装](#)
6. 登录 QTS。

## 3. 安装和配置

本章提供了具体的硬件和固件安装与配置步骤。

### 硬件安装

本节提供有关安装硬盘、内存模块和扩展卡的信息。

### 安装硬盘

TS-x31P3 兼容 3.5 英寸硬盘、2.5 英寸硬盘以及 2.5 英寸固态硬盘。所有硬盘架均支持 SSD 缓存加速。

#### 在 3.5 英寸托盘上安装 3.5 英寸硬盘



#### 警告

- 安装硬盘将删除硬盘上的所有数据。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。

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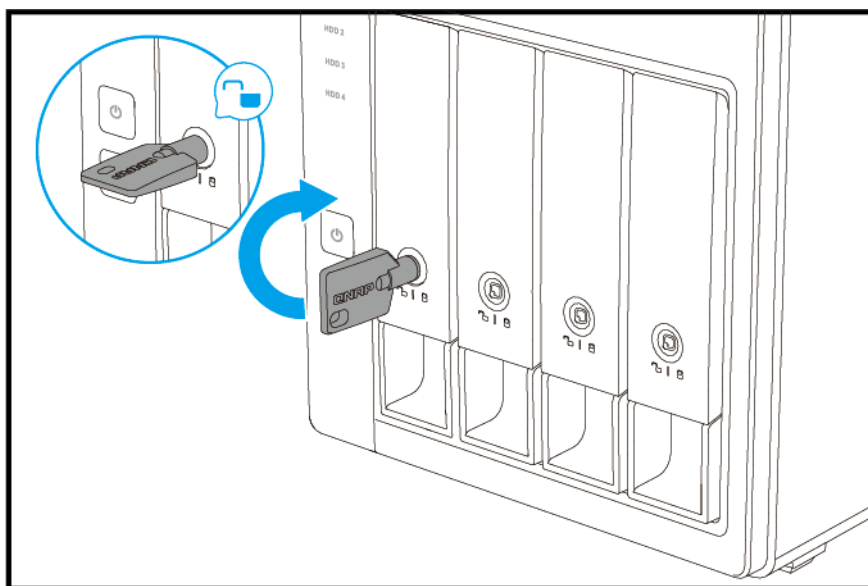
**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

•



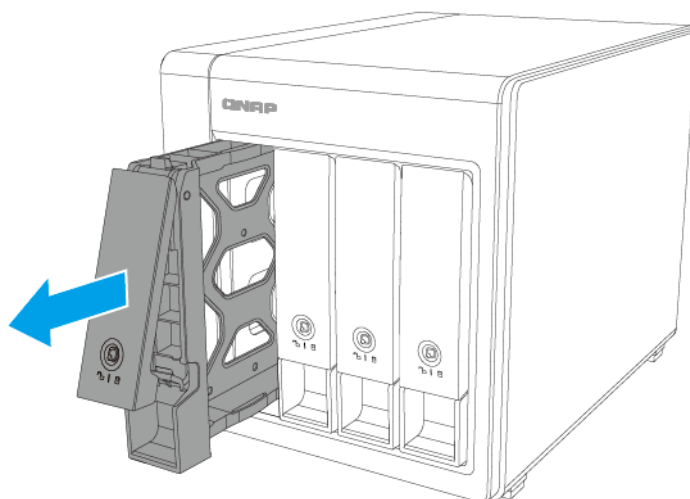
**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 取下硬盘托盘。
  - a. 可选: 解除对托盘的锁定。

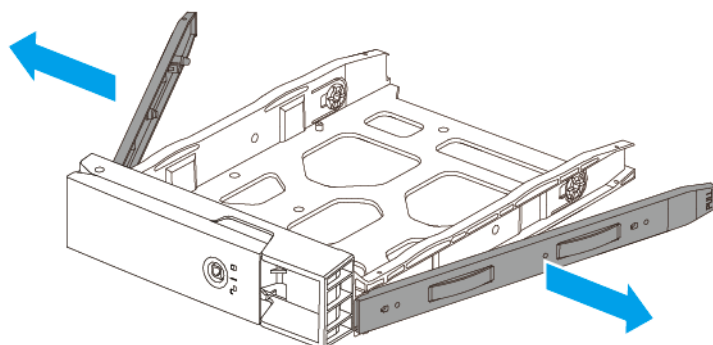


**注**  
预装硬盘托盘未锁定。

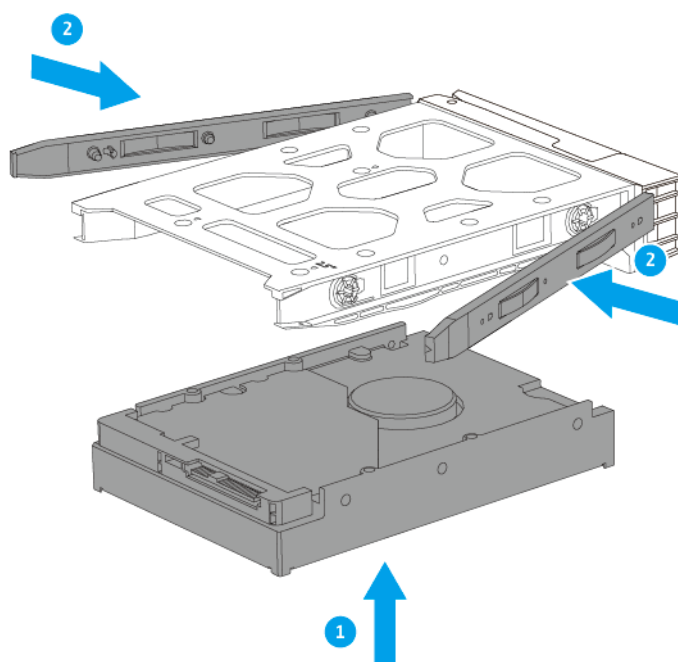
- b. 拉动手柄以松开托盘。
- c. 拉出托盘。



3. 将硬盘安装到托盘上。
  - a. 取下硬盘托盘两侧的固定面板。

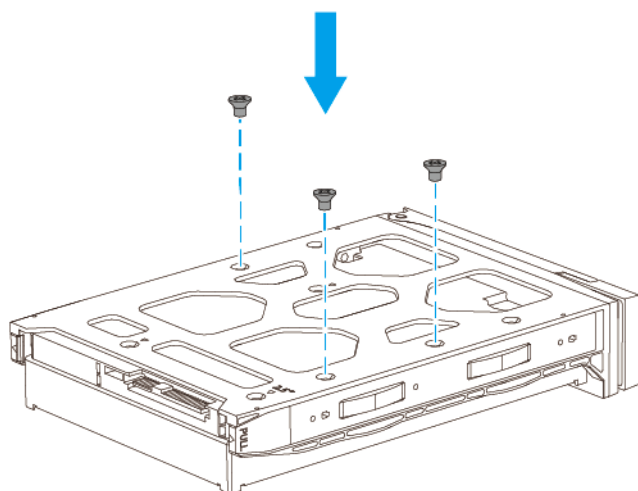


- b. 将硬盘放在托盘上，使硬盘两侧的孔与托盘两侧的孔对齐。
- c. 装上固定面板，将硬盘锁定在托盘上。



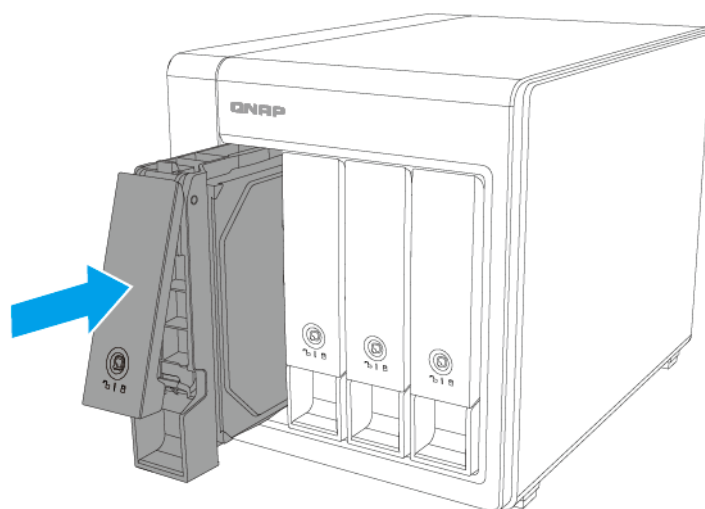
- d. 装上螺丝，进一步固定硬盘。



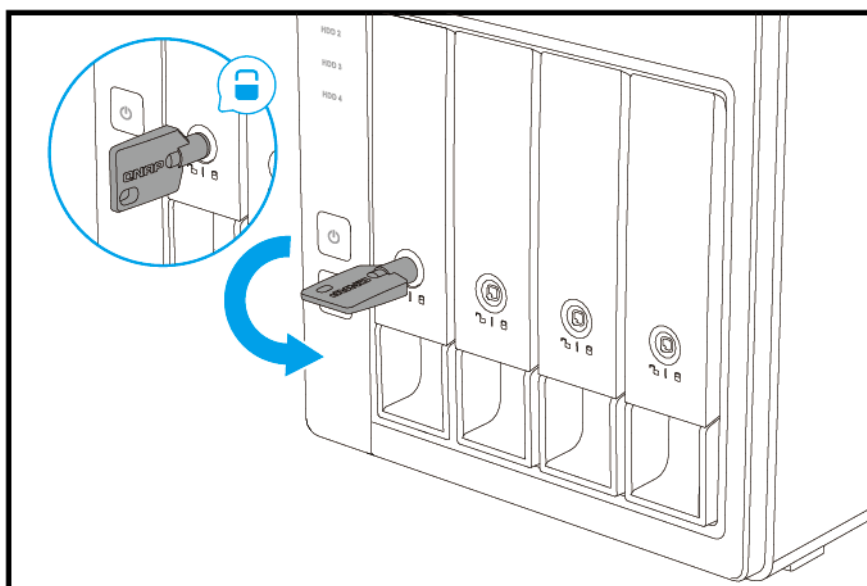


**4. 将托盘装入硬盘架。**

- a. 将托盘插入硬盘架。**
- b. 推动手柄。**



- c. 锁住托盘。**



5. 启动 NAS 电源。

### 在 3.5 英寸托盘上安装 2.5 英寸硬盘或固态硬盘



#### 警告

- 安装硬盘将删除硬盘上的所有数据。
- 请执行静电放电 (ESD) 规程，以避免组件损坏。

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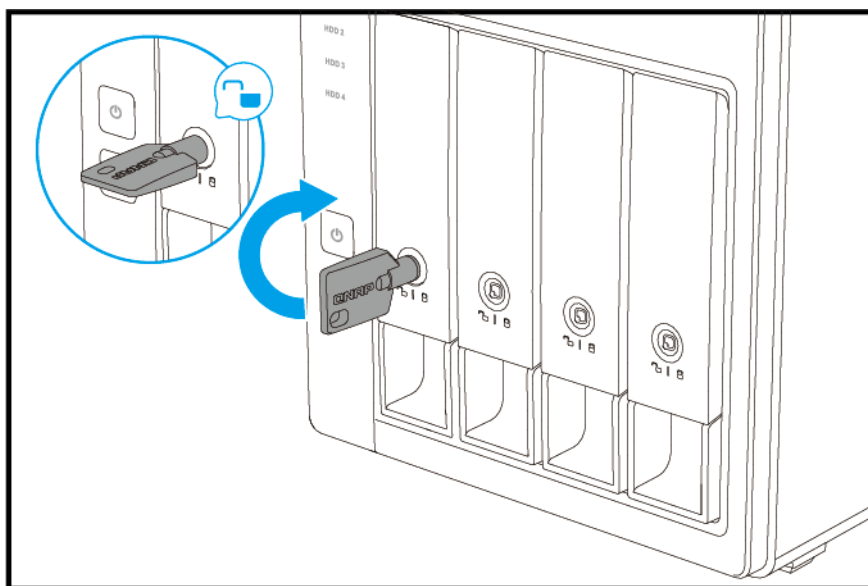
**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。

•



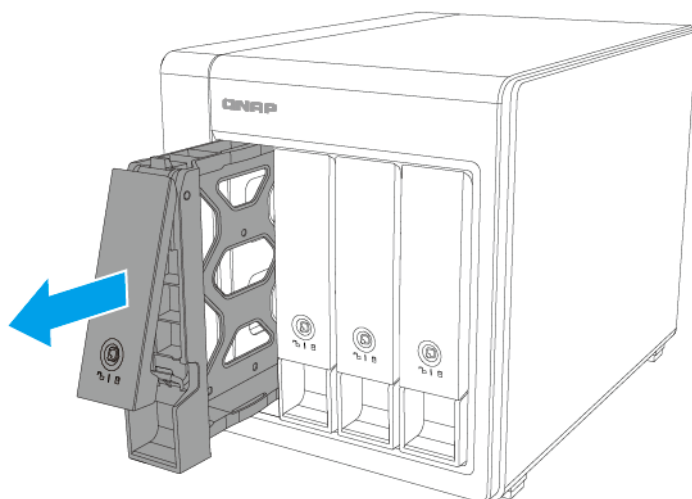
**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 取下硬盘托盘。
  - a. 可选: 解除对托盘的锁定。

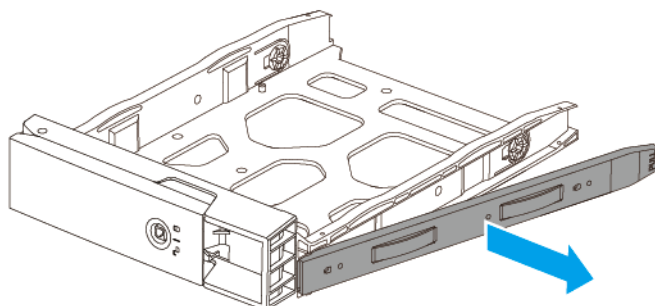


**注**  
预装硬盘托盘未锁定。

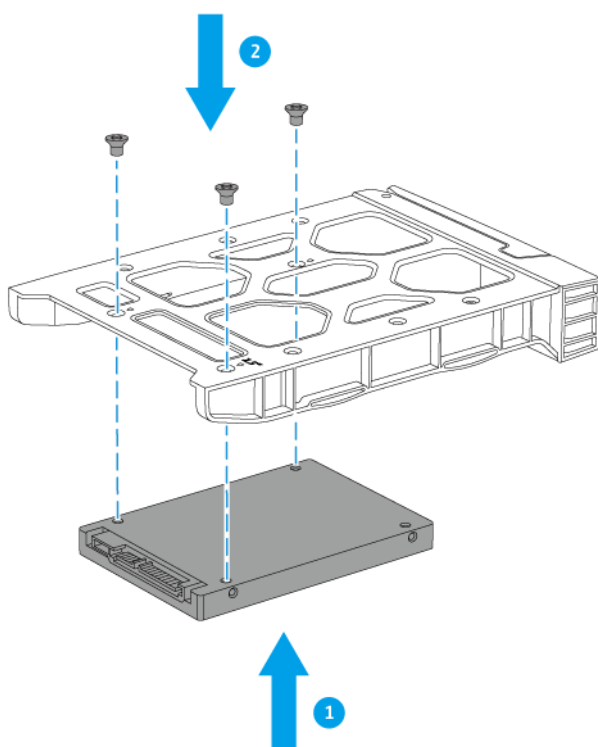
- b. 拉动手柄以松开托盘。
- c. 拉出托盘。



3. 将硬盘安装到托盘上。
  - a. 取下硬盘托盘右侧的固定面板。

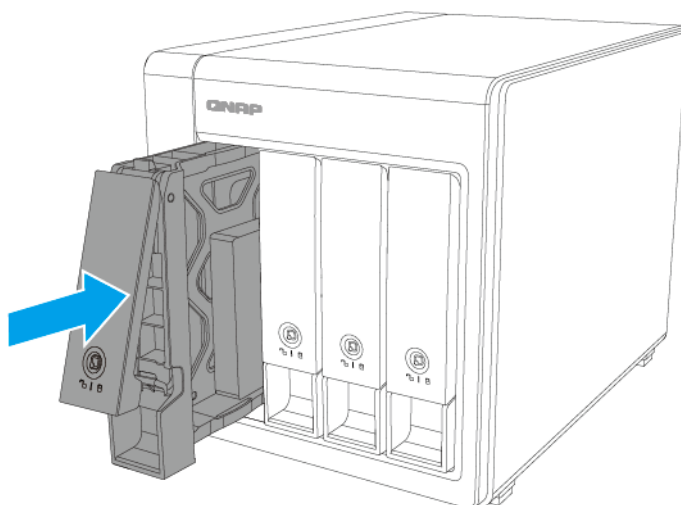


- b. 将硬盘放在托盘上，使硬盘两侧的孔与托盘两侧的孔对齐。
- c. 安装螺丝。

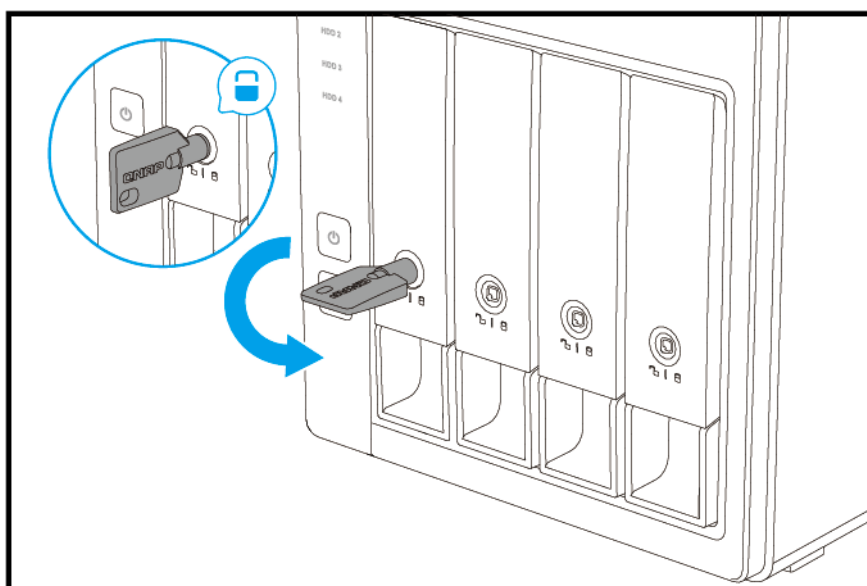


- 4. 将托盘装入硬盘架。
  - a. 将托盘插入硬盘架。

b. 推动手柄。



c. 锁住托盘。



5. 启动 NAS 电源。

## 更换内存模块

NAS 有一个内存插槽。您可以通过升级内存模块来增加 NAS 的内存容量。

请仅使用 QNAP 内存模块，以保证系统性能和稳定性。可以从授权经销商处购买 QNAP 内存模块。



### 警告

- 只有合格人员才能执行以下步骤。不遵守说明可能会导致重伤或死亡。

- 请执行静电放电 (ESD) 规程，以避免组件损坏。



**转动的风扇叶片：**使您的双手和身体其他部位远离正在转动的风扇叶片。



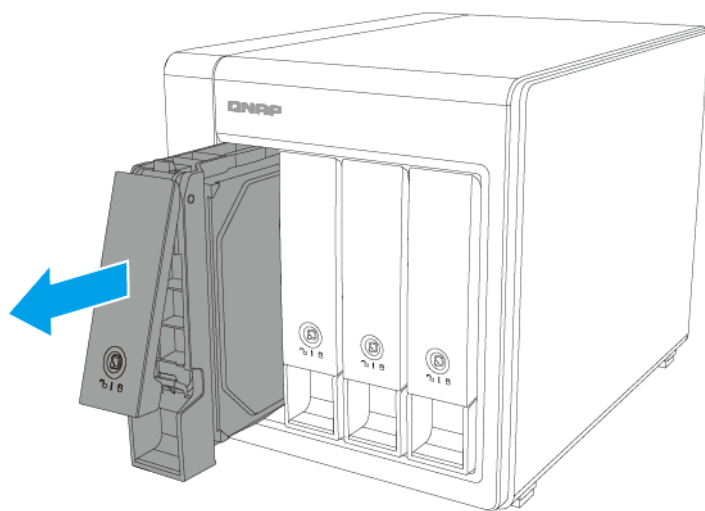
**其他运动的组件：**使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭 NAS 电源。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下硬盘托盘。
  - a. 拉动手柄以松开托盘。
  - b. 拉出托盘。

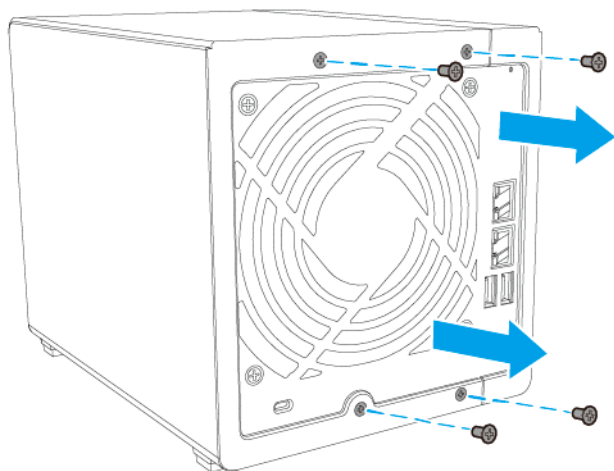


#### 重要

请记住每个硬盘的编号。硬盘托盘需要装回原来所在的硬盘架。

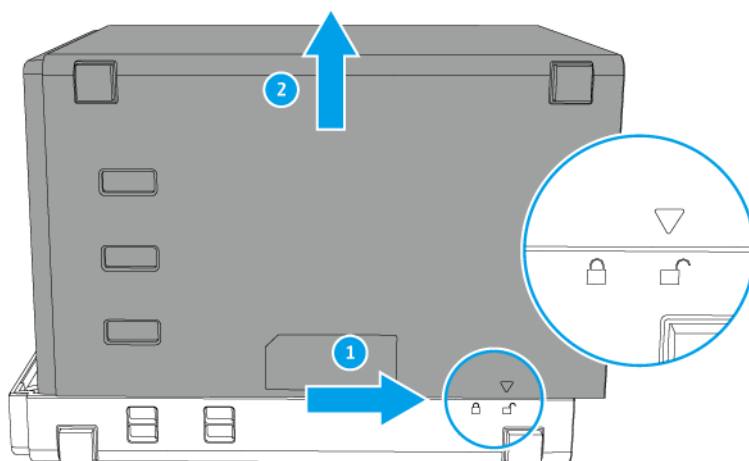


5. 取下外壳盖。
  - a. 卸下用于将外壳盖固定到机箱的螺丝。

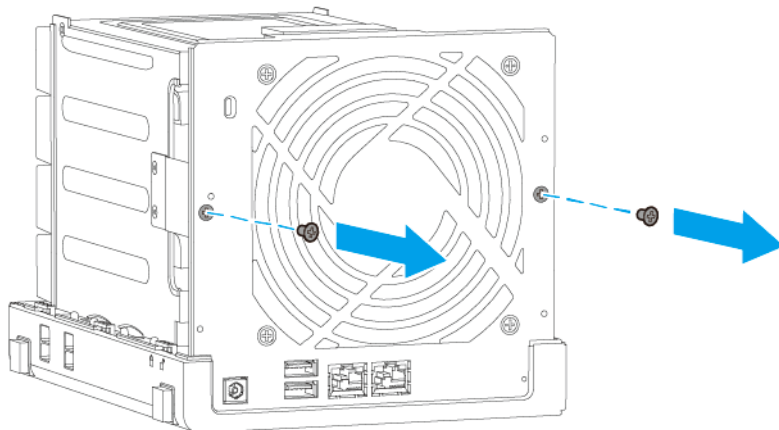
**提示**

外壳盖的螺丝要长于 NAS 其他部件的螺丝。

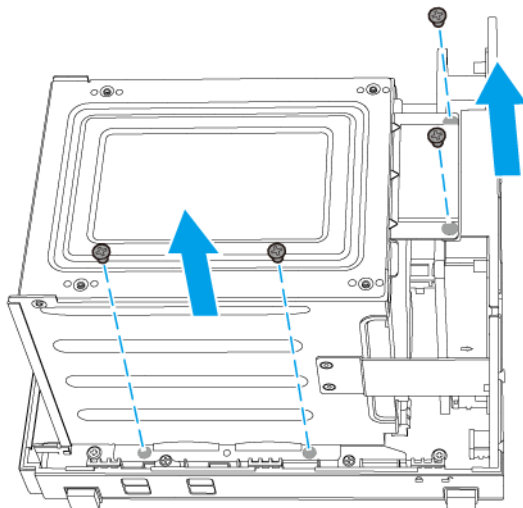
- b. 将 NAS 右侧朝下放置。
- c. 将外壳盖向右滑动，使三角图标与开锁图标对齐。
- d. 向上拉起外壳盖，使其完全脱离机箱。



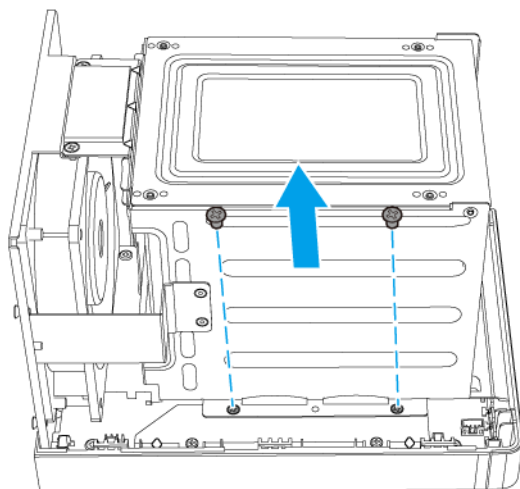
6. 取下将硬盘架机箱固定到 NAS 背面的螺丝。



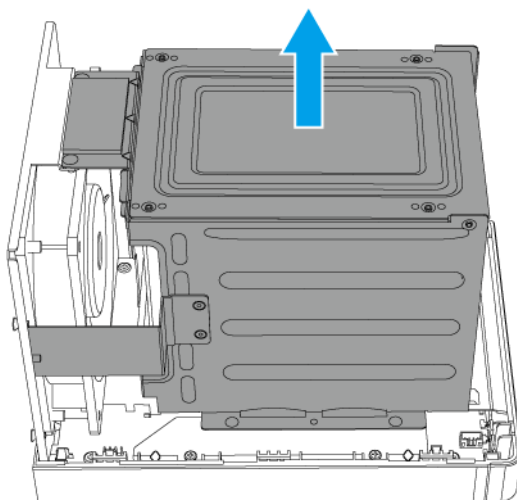
7. 取下将硬盘托盘机箱固定到 NAS 的 6 个螺丝。





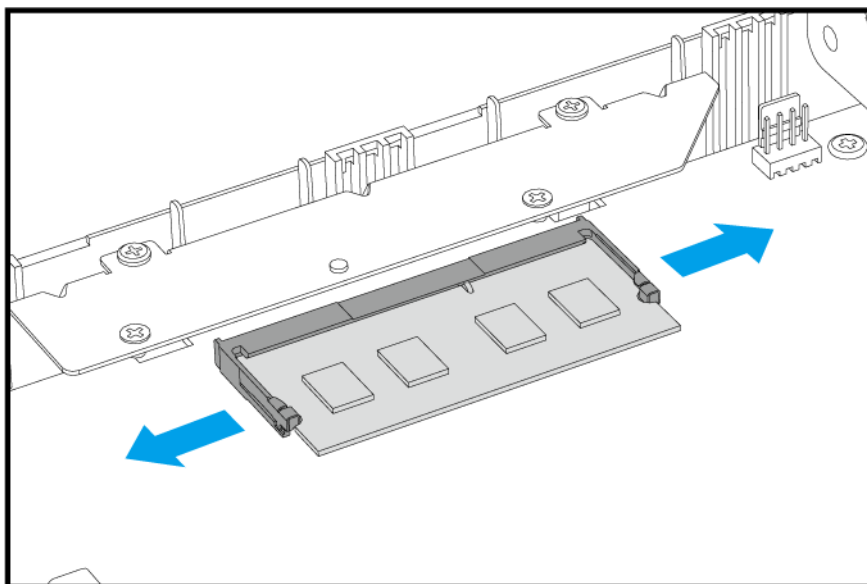


8. 将硬盘托盘机箱小心向上拉起，使其与 NAS 完全分离。



9. 取下现有模块。

a. 同时向外推动固定夹以释放模块。



b. 确认模块向上倾斜并完全脱离插槽。

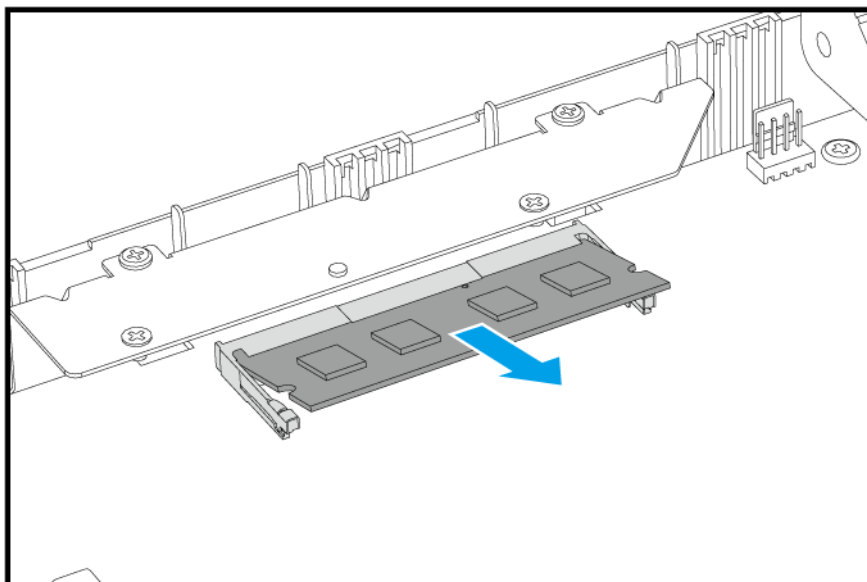


**警告**

如果尝试在模块尚未完全脱离时将其取出，可能会损坏模块和主板。

c. 握住模块边缘。

d. 小心将模块滑出插槽。



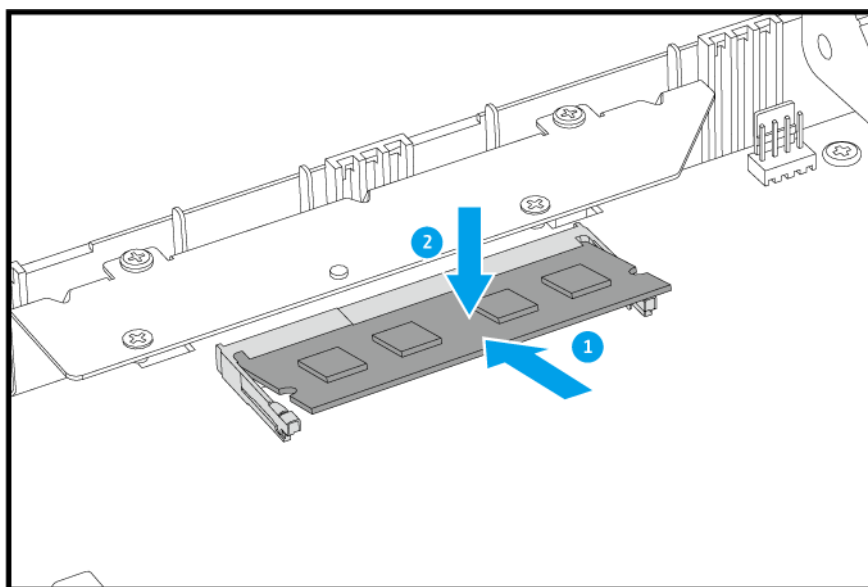
**10. 安装新模块。**

a. 将凹口与插槽内的凸起对齐。

b. 将模块插入插槽中。

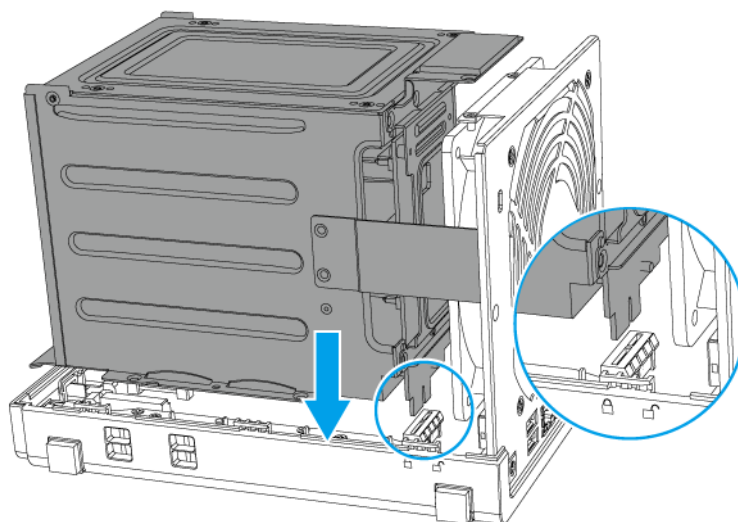
c. 确认金属接头已完全插入插槽中。

- d. 小心地向下按压模块，直到固定夹将模块锁定到位。

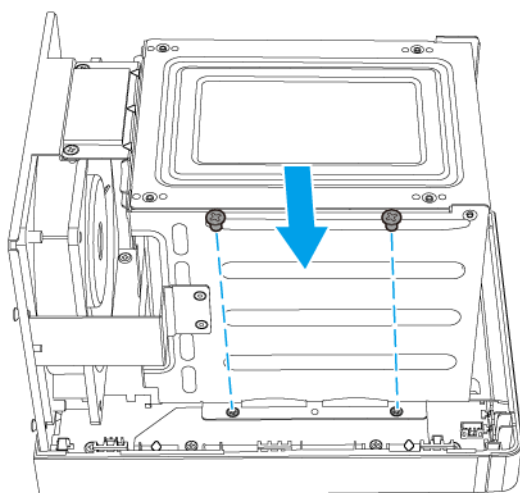
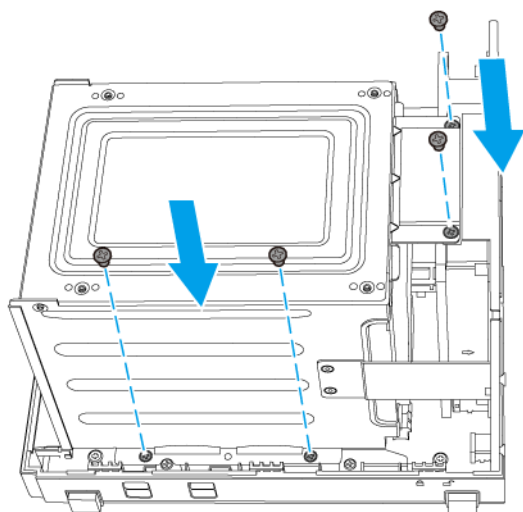


11. 将硬盘托盘机箱放到 NAS 上。

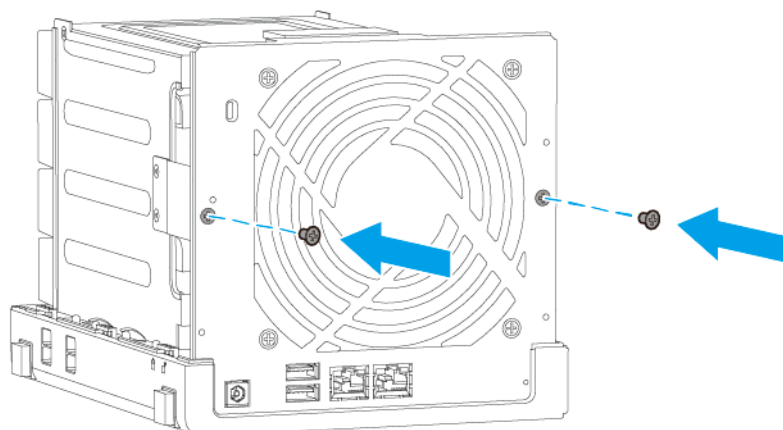
- a. 将硬盘托盘机箱上的 SATA 连接器对准主板上的 SATA 插槽。  
b. 将 SATA 连接器小心插入 SATA 插槽。



12. 装上将硬盘托盘机箱固定到 NAS 的螺丝。

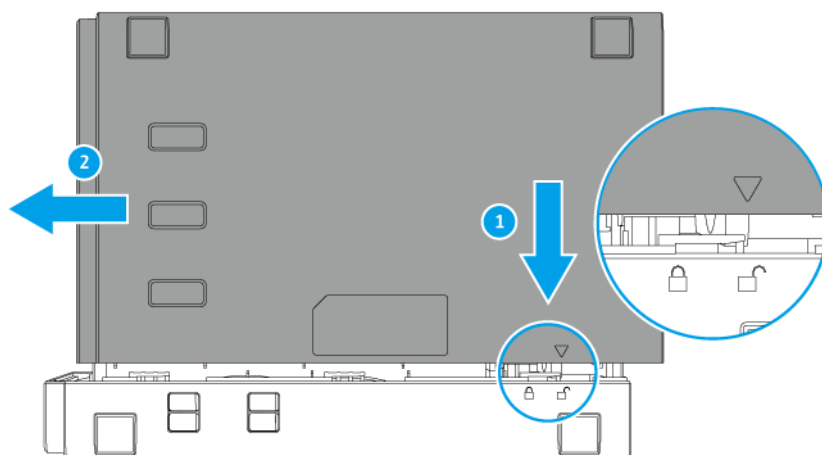


13. 装上将硬盘托盘机箱固定到 NAS 背面的螺丝。

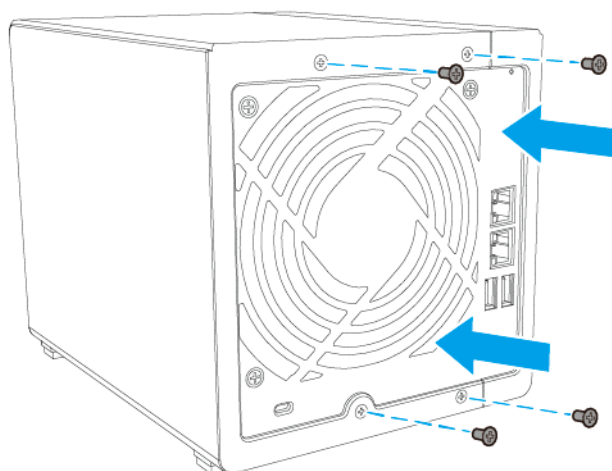


#### 14. 安装外壳盖。

- a. 将外壳盖上的三角图标与机箱上的开锁图标对齐。
- b. 将外壳盖滑动到机箱上。
- c. 将外壳盖向左滑动，使三角图标与闭锁图标对齐。

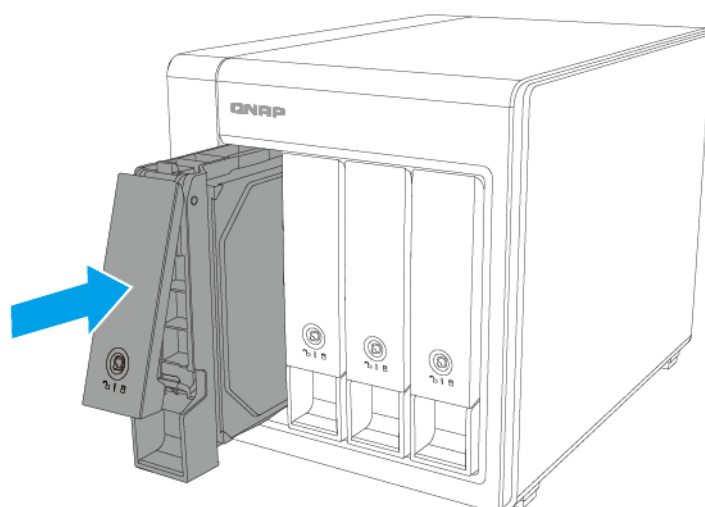


- d. 将 NAS 底部朝下放置。
- e. 装上用于将外壳盖固定到机箱的螺丝。



**15.** 将硬盘托盘装回原来所在的硬盘架。

- a. 将托盘插入硬盘架。
- b. 将手柄推至锁定到位。



**16.** 连接所有线缆和外接部件。

**17.** 启动 NAS 电源。

**18.** 确认 NAS 能够识别该模块。

- a. 以管理员身份登录 QTS。
- b. 转到**控制台 > 系统 > 系统状态 > 硬件信息**。

- c. 检查内存总容量值。

## 连接 USB 扩展单元

TS-x31P3 支持 USB 扩展单元。要将 TS-x31P3 连接到 USB 扩展单元，需要 USB C 型至 USB A 型线缆。



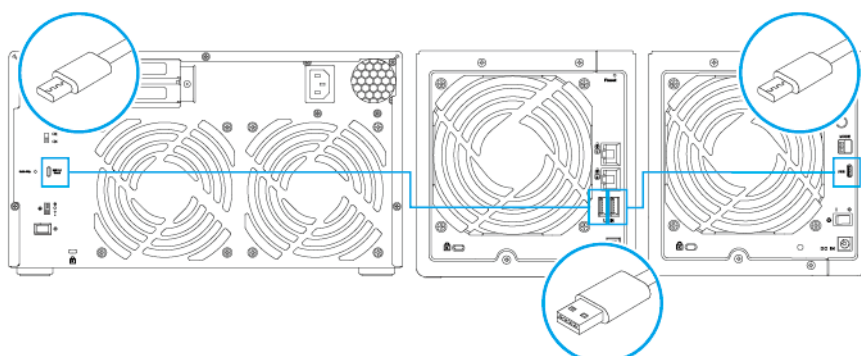
**注**  
有关 USB 扩展单元兼容性的详细信息，请参见 <https://www.qnap.com/en/compatibility-expansion/>。

您可以从 QNAP 或授权经销商处购买存储扩展配件。

有关详细信息，请转到 <https://shop.qnap.com>。

扩展单元型号	描述	所需配件
TR-002	<ul style="list-style-type: none"> <li>使用 USB 3.2 Gen 2 C 型接口</li> <li>支持 SATA 硬盘</li> </ul>	USB 3.2 Gen 2 C 型至 A 型线缆
TR-004	<ul style="list-style-type: none"> <li>使用 USB 3.2 Gen 1 C 型接口</li> <li>支持 SATA 硬盘</li> </ul>	USB 3.2 Gen 1 C 型至 A 型
TR-004U	<ul style="list-style-type: none"> <li>使用 USB 3.2 Gen 1 C 型接口</li> <li>支持 SATA 硬盘</li> </ul>	<ul style="list-style-type: none"> <li>USB 3.2 Gen 1 C 型至 A 型线缆</li> <li>RAIL-B02</li> </ul>
TL-D800C	<ul style="list-style-type: none"> <li>使用 USB 3.2 Gen 2 C 型接口</li> <li>支持 SATA 硬盘</li> </ul>	<ul style="list-style-type: none"> <li>USB 3.2 Gen 2 C 型至 A 型线缆</li> </ul>
TL-R1200C-RP	<ul style="list-style-type: none"> <li>使用 USB 3.2 Gen 2 C 型接口</li> <li>支持 SATA 硬盘</li> </ul>	<ul style="list-style-type: none"> <li>USB 3.2 Gen 2 C 型至 A 型线缆</li> <li>RAIL-B02</li> </ul>

1. 将扩展单元连接到 NAS。
  - a. 将 USB 线缆连接到扩展单元上的 USB C 型端口。
  - b. 将 USB 线缆连接到 NAS 上的 USB 3.2 Gen 1 A 型端口。



2. 为扩展单元接通电源。
3. 确认 NAS 能够识别扩展单元。
  - a. 以管理员身份登录 QTS。
  - b. 转到**主菜单 > 存储与快照总管 > 概述 > 系统**。
  - c. 确认扩展单元已列出。

## QTS 安装

方法	描述	要求
Qfinder Pro 安装（推荐）	如果 NAS 已连接到您的局域网，可以执行以下操作： <ul style="list-style-type: none"> <li>• 使用 Qfinder Pro 定位 NAS。</li> <li>• 完成“智能安装指南”向导中的步骤。</li> </ul>	<ul style="list-style-type: none"> <li>• 计算机</li> <li>• 网线</li> <li>• Qfinder Pro 安装程序</li> </ul>



方法	描述	要求
云安装	<p>如果 NAS 已连接到 Internet，可以执行以下操作：</p> <ul style="list-style-type: none"> <li>• 扫描 NAS 上的二维码。</li> <li>• 指定 Cloud Key。</li> <li>• 登录您的 myQNAPcloud 帐户。</li> <li>• 使用 myQNAPcloud Link 远程访问 NAS。完成“智能安装指南”向导中的步骤。</li> </ul> <p>有关详细信息，请参见<a href="#">使用 Cloud Key 安装 QTS</a>。</p>	<ul style="list-style-type: none"> <li>• 计算机或移动设备</li> <li>• myQNAPcloud 帐户</li> <li>• Cloud Key</li> </ul>

## 使用 Qfinder Pro 安装 QTS



### 警告

安装 QTS 将删除硬盘上的所有数据。请先备份您的数据，然后再继续。

1. 启动 NAS 电源。
2. 将 NAS 连接到您的局域网中。
3. 在已连接到同一局域网的计算机上运行 Qfinder Pro。



### 注

要下载 Qfinder Pro，请转到 <https://www.qnap.com/utilities>。

4. 在列表中找到 NAS，然后双击名称或 IP 地址。
5. 执行以下任一操作。
  - 要检查是否有可供使用的最新版本，单击**开始**。  
向导会下载可供使用的最新版本，下载完成后，NAS 会重新启动。如果没有更新的版本，向导会自动显示**智能安装指南**。
  - 要安装立即可用的版本，单击**跳过**。
6. 单击**启动智能安装指南**。
7. 指定以下信息。
  - **NAS 名称**：指定 1 至 14 个字符的名称。名称支持字母（A 到 Z、a 到 z）、数字（0 到 9）和连字符 (-)，但不能以连字符结尾。
  - **密码**：指定 1 至 64 个字符的管理员密码。密码支持所有 ASCII 字符。
8. 单击**下一步**。
9. 指定时区、日期和时间。



### 提示

QNAP 建议连接到 NTP 服务器，以确保 NAS 遵循协调世界时 (UTC) 标准。

10. 单击**下一步**。
11. 选择**自动获取 IP 地址(DHCP)**。
12. 单击**下一步**。
13. 选择将用于访问 NAS 上共享文件夹的设备类型。
14. 单击**下一步**。
15. 检查设置。
16. 单击**应用**。  
此时会出现确认消息。

**警告**

单击**确认**后，将先删除硬盘上的所有数据，然后再安装 QTS。

17. 单击**确认**。  
QTS 即安装完毕。

## 使用 Cloud Key 安装 QTS

**警告**

安装 QTS 将删除硬盘上的所有数据。请先备份您的数据，然后再继续。

1. 启动 NAS 电源。
2. 将 NAS 连接到 Internet。
3. 使用以下方法之一转到“QNAP Cloud 安装”页面：
  - 在您的计算机上，转到 <http://install.qnap.com/>。
  - 使用移动设备扫描 NAS 上的二维码。

网页中会列出本地网络上所有尚未初始化的 QNAP NAS 设备。

4. 从列表中找到您的 NAS，然后单击**初始化**。

**注**

如果未列出您的 NAS，请按网页上的说明指定 NAS 上的 Cloud Key。

安装向导将在默认 Web 浏览器中打开。

5. 创建帐户或登录 myQNAPcloud。

**注**

创建帐户后，您必须返回此页面才能完成安装。

6. 为 NAS 指定 myQNAPcloud 设备名称。

**注**

- myQNAPcloud 设备名称用于远程访问 NAS。
- 因安全原因，在您的 NAS 上初始化 myQNAPcloud Link 远程连接服务后，会将其禁用。通过 LAN 连接到 QTS，然后安装 myQNAPcloud Link 可启用此服务。

7. 单击**下一步**。
8. 执行以下任一操作。
  - 要检查是否有可供使用的最新版本，单击**开始**。  
向导会下载可供使用的最新版本，下载完成后，NAS 会重新启动。如果没有更新的版本，向导会自动显示**智能安装指南**。
  - 要安装立即可用的版本，单击**跳过**。
9. 单击**启动智能安装指南**。
10. 指定以下信息。
  - **NAS 名称**：指定 1 至 14 个字符的名称。名称支持字母（A 到 Z、a 到 z）、数字（0 到 9）和连字符（-），但不能以连字符结尾。
  - **密码**：指定 1 至 64 个字符的管理员密码。密码支持所有 ASCII 字符。
11. 单击**下一步**。
12. 指定时区、日期和时间。

**提示**

QNAP 建议连接到 NTP 服务器，以确保 NAS 遵循协调世界时 (UTC) 标准。

13. 单击**下一步**。
14. 选择**自动获取 IP 地址(DHCP)**。
15. 单击**下一步**。
16. 选择将用于访问 NAS 上共享文件夹的设备类型。
17. 单击**下一步**。
18. 检查设置。
19. 单击**应用**。  
此时会出现确认消息。

**警告**

单击**确认**后，将先删除硬盘上的所有数据，然后再安装 QTS。


20. 单击**确认**。  
QTS 即安装完毕。

## 4. 基本操作


本章介绍 NAS 的基本操作。

### 电源按钮

操作	用户操作	结果
启动电源	按下此按钮一次。	设备开机。
关闭电源	按住此按钮 5 秒钟。	设备关机。
强制关机	按住此按钮 10 秒钟。	设备关机。

 **重要**  
 仅当设备无响应时才能使用此方法。

### 重置按钮

操作	用户操作	结果
基本系统重置	按住此按钮 3 秒钟。	<p>以下设置将重置为默认值：</p> <ul style="list-style-type: none"> <li>系统管理员密码：适配器 1 的 MAC 地址，无特殊字符。例如，如果适配器 1 的 MAC 地址为 11:22:33:44:55:66，则管理员密码将为 112233445566。</li> </ul> <p> <b>提示</b>            您可以使用 Qfinder Pro 找到适配器 1 的 MAC 地址。设备上粘贴的标签也会在 MAC1 下列出此地址。</p> <ul style="list-style-type: none"> <li>TCP/IP 配置：               <ul style="list-style-type: none"> <li>使用动态 IP 地址</li> <li>禁用巨型帧</li> <li>如果启用端口中继（仅限多局域网型号），则端口中继模式将重置为“主动备份(故障转移)”。</li> </ul> </li> <li>系统端口：8080（系统服务端口）</li> <li>安全等级：低（允许所有连接）</li> <li>LCD 面板密码：（空白）</li> <li>VLAN：禁用</li> </ul>
高级系统重置	按住此按钮 15 秒钟。	<p>恢复默认出厂设置。</p> <ul style="list-style-type: none"> <li>要在高级系统重置后检索旧数据，请在 NAS 上重新创建先前的文件夹结构。</li> </ul>

## USB 一键复制按钮

使用 USB 一键复制按钮，可以将数据备份从 USB 设备复制到 NAS，或将数据备份从 NAS 复制到 USB 设备。此功能支持增量备份。NAS 只会复制在上次备份后修改或添加的文件。

## LED

开启 NAS 电源后，LED 指示灯会指示系统状态和相关信息。以下 LED 信息仅适用于硬盘已正确安装并且 NAS 已连接到网络的情况。

有关 LED 位置的详细信息，请参见[前面板](#)。

LED	状态	描述
系统状态	红绿交替闪烁, 间隔 0.5 秒	<ul style="list-style-type: none"> <li>• 硬盘正在格式化。</li> <li>• NAS 正在初始化。</li> <li>• 操作系统正在更新。</li> <li>• RAID 正在重建。</li> <li>• 正在进行在线 RAID 容量扩展。</li> <li>• 正在进行在线 RAID 级别迁移。</li> </ul>
	红色	<ul style="list-style-type: none"> <li>• 硬盘无效。</li> <li>• 磁盘卷的容量已满。</li> <li>• 磁盘卷的容量即将被占满。</li> <li>• 系统风扇故障。</li> <li>• 访问（读/写）数据时出错。</li> <li>• 在硬盘上检测到坏扇区。</li> <li>• NAS 处于降级只读模式（RAID 5 或 RAID 6 中的两个成员硬盘出现故障，但仍可读取数据）。</li> <li>• 硬件自检发生错误。</li> </ul>
	闪烁红色, 间隔 0.5 秒	NAS 处于降级模式（RAID 1、RAID 5 或 RAID 6 中的一个成员硬盘出现故障）。
	闪烁红色一次	NAS 收到遥控器的命令。
	闪烁橙色	NAS 处于睡眠模式 (S3)。
	绿色	NAS 已准备就绪。
	闪烁绿色, 间隔 0.5 秒	<ul style="list-style-type: none"> <li>• NAS 正在启动。</li> <li>• NAS 未配置。</li> <li>• 硬盘未格式化。</li> </ul>
	熄灭	所有硬盘都处于待机模式。
LAN	橙色	另一台设备访问数据期间发生了读/写错误。
	闪烁橙色	正在从网络访问设备。
2.5 Gb 以太网速度	绿色	网络连接以 2.5 Gbps 的速度运行。
	橙色	网络连接以 1 Gbps 的速度运行。
	熄灭	<ul style="list-style-type: none"> <li>• 网络连接以 100 Mbps 的速度运行。</li> <li>• 没有网络连接。</li> </ul>

LED	状态	描述
2.5 Gb 以太网活动	橙色	网络连接已建立。
	闪烁橙色	正在从网络访问 NAS。
	熄灭	<ul style="list-style-type: none"> <li>• 网络连接以 100 Mbps 的速度运行。</li> <li>• 没有网络连接。</li> </ul>
1 Gb 以太网速度	绿色	网络连接以 1 Gbps 的速度运行。
	橙色	网络连接以 100 Mbps 的速度运行。
	熄灭	<ul style="list-style-type: none"> <li>• 网络连接以 10 Mbps 的速度运行。</li> <li>• 没有网络连接。</li> </ul>
1 Gb 以太网活动	绿色	网络连接已建立。
	闪烁绿色	正在从网络访问 NAS。
	熄灭	<ul style="list-style-type: none"> <li>• 网络连接以 10 Mbps 的速度运行。</li> <li>• 没有网络连接。</li> </ul>
硬盘	闪烁红色，每秒 5 次	操作系统正在定位硬盘。
	红色	发生硬盘读/写错误。
	闪烁绿色	正在访问数据。
	绿色	硬盘可供访问。
USB - 一键复制	闪烁蓝色，每秒 2 次	<ul style="list-style-type: none"> <li>• 正在装载连接到 USB 一键复制端口的 USB 外部存储设备。</li> <li>• 正在断开与连接到 USB 一键复制端口的 USB 外部存储设备的连接。</li> <li>• 正在访问连接到 USB 一键复制端口的 USB 外部存储设备。</li> </ul>
	蓝色	USB 外部存储设备已成功装载到 USB 一键复制端口。
	熄灭	未连接任何 USB 外部存储设备。
USB	蓝色	在前 USB 端口中检测到 USB 设备。
	熄灭	未检测到 USB 设备。

## 警告音

时长	频率	描述
短提示音 (0.5 秒)	1	<ul style="list-style-type: none"> <li>NAS 正在启动。</li> <li>按下重置按钮 3 秒钟后, NAS 将重置配置。</li> <li>按下重置按钮 15 秒钟后, NAS 将重置配置并重新启动。</li> <li>操作系统已更新。</li> </ul>
	3	无法将 NAS 数据复制到连接到前 USB 端口的的外部存储设备。
长提示音 (1.5 秒)	3 (每 5 分钟)	<ul style="list-style-type: none"> <li>系统风扇故障。</li> <li>风扇模块已移除。</li> </ul>
	2	<ul style="list-style-type: none"> <li>NAS 已通过强制关闭关机 (硬件关闭)。</li> <li>磁盘卷的容量即将被占满。</li> <li>磁盘卷的容量已满。</li> <li>硬盘处于降级模式。</li> <li>硬盘正在重建。</li> <li>插入或抽出硬盘。</li> </ul>
	1	<ul style="list-style-type: none"> <li>NAS 已关机。</li> <li>NAS 已成功开机并准备就绪。</li> </ul>



## 5. 故障排除

本章介绍基本故障排除信息。

### 强制 Qfinder Pro 或 myQNAPcloud 定位 NAS

如果在 QTS 安装过程中 Qfinder Pro 或 myQNAPcloud 无法定位 NAS，则硬盘或数据可能有故障。

1. 关闭 NAS 电源。
2. 取下所有硬盘。
3. 启动 NAS 电源。
4. 使用 Qfinder Pro 或 myQNAPcloud 定位 NAS。
5. 重新插入硬盘。
6. 继续安装 QTS。

### 热插拔故障硬盘

在以下情况下，NAS 支持热插拔硬盘：

- RAID 1：一个成员硬盘有故障
- RAID 5：一个成员硬盘有故障
- RAID 6：一个或两个成员硬盘有故障

1. 登录 QTS。
2. 转到**主菜单 > 存储与快照总管 > 存储 > 磁盘/VJBOD**。
3. 找到发生故障的硬盘。
4. 准备一个与故障硬盘具有相同或更大容量的新硬盘。
5. 从 NAS 中取下故障硬盘。
6. 等待 20 秒或 NAS 发出两声提示音。
7. 从硬盘托盘中取下故障硬盘。
8. 将新硬盘插入硬盘托盘中。
9. 安装新硬盘。  
此时 NAS 会发出两声提示音。
10. 转到**主菜单 > 存储与快照总管 > 存储**。
11. 找到包含新硬盘的卷，然后确认状态为正在重建。

### 恢复被意外移除的正常硬盘

NAS 支持独有的 RAID 恢复技术，可以从意外断开或移除的硬盘中恢复发生故障的 RAID 磁盘卷。用户可以将处于非活动状态的 RAID 1、RAID 5 或 RAID 6 卷恢复到降级模式，或将处于非活动状态的 RAID 0 和 JBOD 配置恢复为正常配置。



**注**  
TS-231P3 仅支持单盘、JBOD、RAID 0 和 RAID 1 配置。

磁盘卷	RAID 恢复支持	被移除硬盘的最大数量
单盘	否	不适用
JBOD	是	1
RAID 0	是	1
RAID 1	是	1
RAID 5	是	2
RAID 6	是	3
RAID 10	否	不适用

## 支持和其他资源

QNAP 提供了以下资源：

资源	URL
文档	<a href="https://docs.qnap.com">https://docs.qnap.com</a>
服务门户	<a href="https://service.qnap.com">https://service.qnap.com</a>
下载	<a href="https://download.qnap.com">https://download.qnap.com</a>
社区论坛	<a href="https://forum.qnap.com">https://forum.qnap.com</a>

## 6. 术语表

### **Cloud Key**

分配给每个 NAS 设备的唯一 8 位数代码

### **myQNAPcloud Link**

可用于通过 Internet 访问 NAS，而且不必配置复杂的端口转发设置

### **myQNAPcloud**

提供各种远程访问服务，如 DDNS 和 myQNAPcloud Link

### **myQNAPcloud ID**

用于注册 myQNAPcloud 帐户的电子邮件地址

### **Qfinder Pro**

一种 QNAP 实用工具，可用于查找和访问局域网中的 QNAP NAS 设备

### **QTS**

QNAP NAS 操作系统

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Version 3, 29 June 2007

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## CE 声明



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## FCC B 类声明



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- 将本设备与接收设备分别接入不同回路的电源插座。
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**VCCI 公告**

VCCI-B

**BSMI 公告****SJ/T 11364-2006**

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显示	0	0	0	0	0	0
印刷电路板	0	0	0	0	0	0
金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
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