



QNAP

QGD-1600P

用户指南

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1. 前言





关于本指南

本指南提供有关 QNAP QGD-1600P 网络交换机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网络管理员。本指南假定用户已对网络、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 QGD-1600P 交换机的基本信息。

关于 QGD-1600P

QGD-1600P 是 QNAP 的第一款内置存储容量的智能边缘网络交换机。该交换机采用软件定义的网络 (SDN) 来支持包括 NAS、NVR、路由器、防火墙、AP 控制器和监控在内的多个 SMB 应用。QGD-1600P 支持虚拟机 (VM)，提供 4 端口 60 瓦特和 12 端口 30 瓦特千兆位以太网供电 (PoE)。交换机的双 CPU 设计为 VM 和 QTS 应用程序提供了第 2 层管理功能。

硬件规格



警告

如果您的 QNAP 产品有硬件方面的缺陷，请将产品退回 QNAP 或 QNAP 授权的服务中心进行维修或更换。您本人或未经授权的第三方对产品进行的任何维修或维护流程均会使保修失效。

对于因未经授权进行的修改和安装不受支持的第三方应用程序而造成的任何损坏或数据丢失，QNAP 概不负责。

有关详细信息，请参见 [QNAP 保修条款和条件](#)。




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>。

订购部件号	CPU	内存	电源
QGD-1600P-4G	Intel® Celeron® J4115	4 GB	单个
QGD-1600P-8G	Intel® Celeron® J4115	8 GB	单个

组件	QGD-1600P-4G	QGD-1600P-8G
处理器		
CPU	Intel® Celeron® J4115	
频率	4 核/4 线程 1.8 GHz 基本/2.5 GHz 脉冲	
架构	x86 64 位	
加密引擎	AES-NI	
显卡	Intel® HD Graphics 600	
内存		
预安装内存	4 GB RAM: 1 x 4 GB SODIMM DDR4	8 GB RAM: 2 x 4 GB SODIMM DDR4
内存插槽	2 x 4 GB SODIMM DDR4	
	重要 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设备，请使用规格相同的 QNAP 模块。 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。	
最大内存	8 GB RAM: 2 x 4 GB	
闪存	4 GB (双重引导操作系统保护)	
存储		

组件	QGD-1600P-4G	QGD-1600P-8G
硬盘架	2 x 2.5 英寸 SATA 6 Gbps  注 该接口向后兼容 SAS 3 Gbps 硬盘。	
硬盘兼容性	<ul style="list-style-type: none"> • 2.5 英寸 SATA 机械硬盘 • 2.5 英寸 SATA 固态硬盘 	
SSD 缓存加速支持	2.5 英寸硬盘架：1 和 2	
热插拔	支持	
端口		
千兆位以太网端口	<ul style="list-style-type: none"> • 2 个 1 GbE SFP/RJ45 combo 端口 • 14 x 1 GbE RJ45 	
PoE 支架		
802.3af (PoE)	端口 1 至 16  注 端口支持 IEEE 802.3af-2003 PoE 标准，并提供最高 15.4W 的直流电源。	
802.3at (PoE+)	端口 1 至 16  注 端口支持 IEEE 802.3at-2009 PoE 标准，并提供最高 30W 的直流电源。	
802.3bt (PoE++)	端口 1 至 4  注 端口支持 IEEE 802.3bt-2018 PoE 标准，并提供最高 60W 的直流电源。	
PoE 最大电源端口	<ul style="list-style-type: none"> • 端口 1 至 4：最高 60W • 端口 5 至 16：最高 30W 	
总 PoE 功耗预算	370W  警告 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。	
总功耗	418W	
外部 I/O 端口和扩展插槽		
PCIe 插槽	2 x PCIe 2.0 x2  提示 有关兼容扩展卡的列表，请转到 https://www.qnap.com/compatibility 。	
USB 端口	<ul style="list-style-type: none"> • 1 x USB 3.0 A 型 • 2 x USB 2.0 A 型 	
HDMI 端口	1 x HDMI 2.0 (30 Hz HDR 时分辨率最高 3840 x 2160)	
界面		

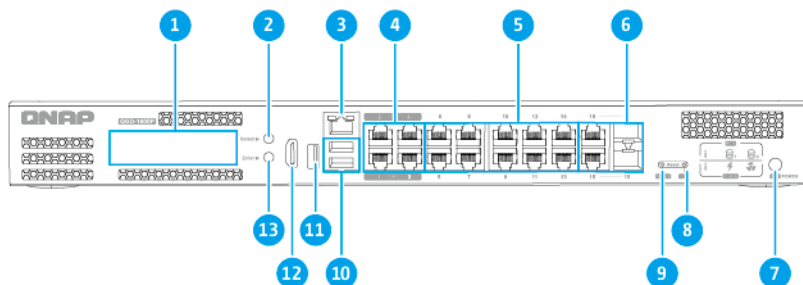
组件	QGD-1600P-4G	QGD-1600P-8G
显示面板	单色背光 LCD 显示屏	
按钮	<ul style="list-style-type: none"> • Enter (确认) • Select (选择) • QTS 重置 • 交换机重置 • 系统电源 	
开关	电源	
尺寸		
外形规格	1U 机架式	
尺寸 (高 x 宽 x 深)	160 × 528 × 403 mm (62.99 × 207.87 × 158.66 英寸)	
净重	4.41 kg (9.72 磅)	
其他		
导轨兼容性	<ul style="list-style-type: none"> • RAIL-B02 • SP-EAR-BLK-01 <p> 注 RAIL-B02 导轨套件和 SP-EAR-BLK-01 机架安装挂耳需另购。有关详细信息，请参见 QNAP 配件商店。</p>	
系统电池	CR2032 锂电池 (3V, 225 mAh)	
风扇	系统: 2 x 40 mm 12V DC 风扇	
工作温度	0°C 至 45°C (32 至 113°F)	
相对湿度	<ul style="list-style-type: none"> • 无冷凝相对湿度: 5% 至 95% • 湿球温度: 27°C (80.6°F) 	

包装内容

项目	数量
QGD-1600P	1
电源线	1
以太网线	1 x 1GbE (Cat5e)
适用于 2.5 英寸硬盘的螺丝	6
导轨支架螺丝	4
导轨支架	2
橡胶垫脚	4
快速安装指南 (QIG)	1

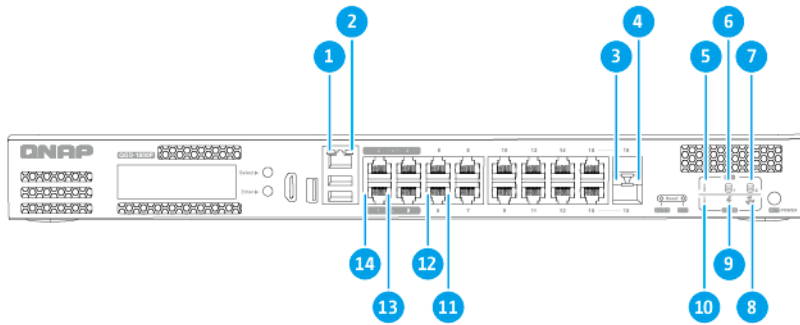
组件

前面板



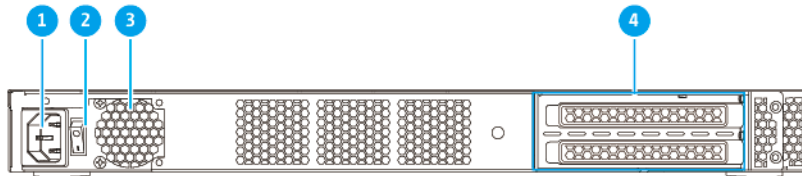
编号	组件	编号	组件
1	LCD 面板	8	QTS 重置按钮
2	Select (选择) 按钮	9	交换机重置按钮
3	主机端口	10	USB 2.0 A 型端口
4	千兆位 802.3at PoE++ 端口	11	USB 3.0 A 型端口
5	千兆位 802.3at PoE+ 端口	12	HDMI 2.0 端口
6	千兆位 802.3at PoE+/SFP combo 端口	13	Enter (确认) 按钮
7	主机电源按钮	-	-

前面板 LED



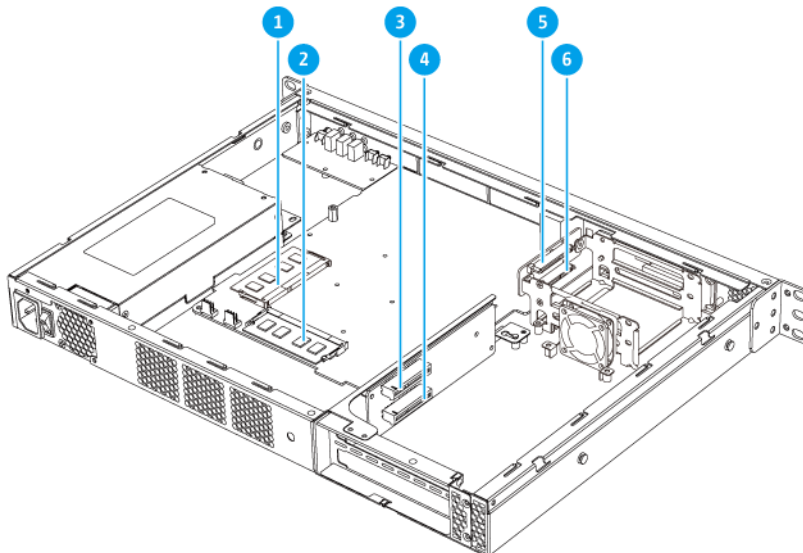
编号	组件	编号	组件
1	主机端口速度 LED	8	风扇 LED
2	主机端口活动 LED	9	电源 LED
3	Combo 端口速度 LED	10	交换机状态 LED
4	Combo 端口活动 LED	11	千兆位 802.3at PoE+ 端口速度 LED
5	QTS 状态 LED	12	千兆位 802.3at PoE+ 电源活动 LED
6	硬盘 1 LED	13	千兆位 802.3bt PoE++ 端口活动 LED
7	硬盘 2 LED	14	千兆位 802.3bt PoE++ 电源速度 LED

后面板



编号	组件	编号	组件
1	电源输入	3	系统风扇
2	系统电源开关	4	PCIe 全高盖板

系统主板



编号	组件	编号	组件
1	内存插槽 2	4	PCIe 2.0 x2 插槽 2
2	内存插槽 1	5	硬盘连接器 1
3	PCIe 2.0 x2 插槽 1	6	硬盘连接器 2

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

- 设备应存放在通过器具、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设备，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，必须由经培训的维修技师从设备拔下所有 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"> • 室温：0°C 至 45°C (32 至 113°F) • 无冷凝相对湿度：5% 至 95% • 平坦的防静电表面，无直射阳光、液体或化学药剂 • 无可能阻塞设备通风或者压住设备或电源线的物品。

类别	项目
硬件和外围设备	<ul style="list-style-type: none"> • 存储硬盘 有关兼容硬盘型号的列表，请转到 https://www.qnap.com/compatibility。 • 网线 • RAIL-B02 • SP-EAR-BLK-01
工具	<ul style="list-style-type: none"> • 1 号或 2 号十字螺丝刀 • 平头螺丝刀 • 防静电腕带

设置交换机

1. 将交换机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，请参见在 [2.5 英寸托盘上安装 2.5 英寸硬盘或固态硬盘](#)。
有关兼容硬盘的列表，请转到 <http://www.qnap.com/compatibility>
3. 可选: 更换内存模块。
有关详细信息，请参见[更换内存模块](#)。
4. 可选: 安装扩展卡。
有关详细信息，请参见[安装扩展卡](#)。
5. 将交换机安装在机架上。
安装信息位于导轨套件包中。
6. 启动交换机。
有关详细信息，请参见[后面板](#)。
7. 将交换机连接到计算机或网络。
有关详细信息，请参见[将交换机连接到计算机或网络](#)。
8. 安装 QTS。
有关详细信息，请参见 [QTS 安装](#)。
9. 登录 QTS。
10. 在交换机上管理设备。
有关详细信息，请参见[交换机管理应用程序访问](#)。

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

本节提供有关各种硬件安装过程的信息。

取下外壳盖



警告

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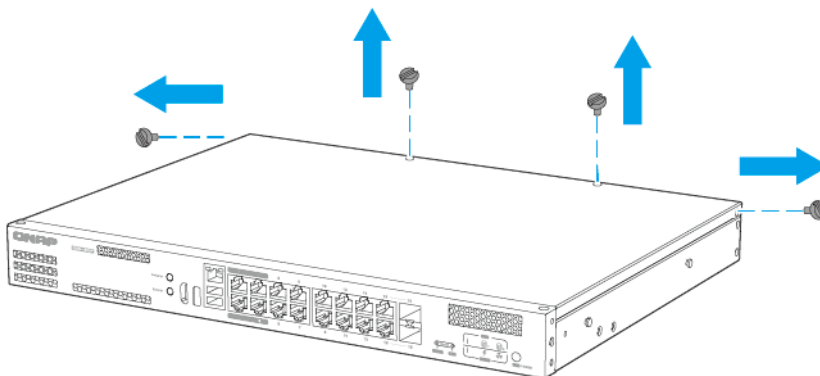
转动的风扇叶片：使您的双手和身体其他部位远离正在转动的风扇叶片。

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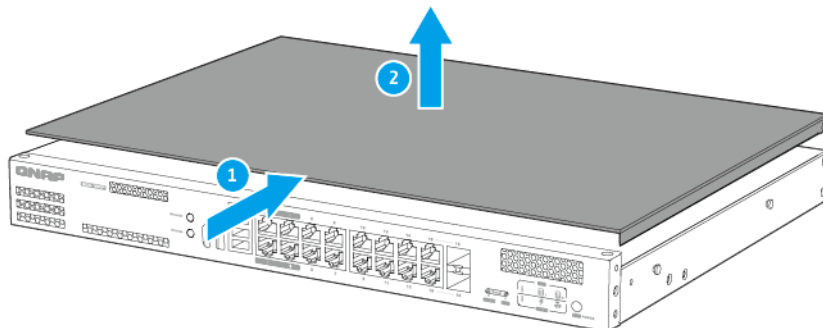
其他运动的组件：使您的双手和身体其他部位远离正在运动的其他组件。

1. 关闭交换机。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下顶盖。
 - a. 取下螺丝。



- b. 将盖板向后滑动。

- c. 提起盖板。



安装外壳盖



警告

•



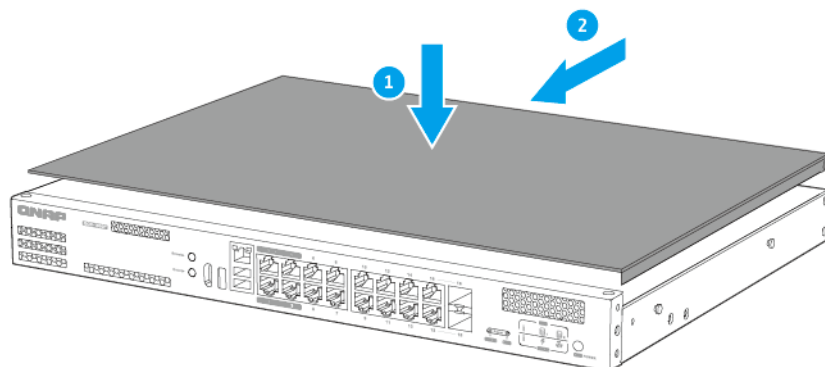
转动的风扇叶片：使您的双手和身体其他部位远离正在转动的风扇叶片。

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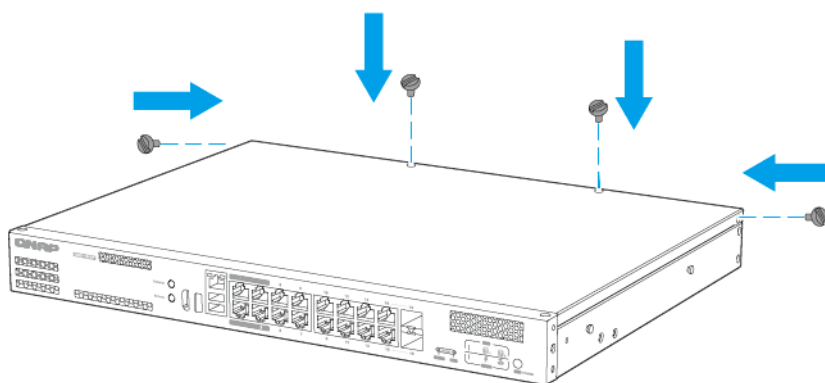


其他运动的组件：使您的双手和身体其他部位远离正在运动的其他组件。

1. 给交换机装上盖板。
 - a. 将盖板放在机箱上。
 - b. 将盖板向前滑动。



2. 安装螺丝。



3. 连接所有线缆和外接部件。
4. 将电源线连接到插座。
5. 启动交换机。

在 2.5 英寸托盘上安装 2.5 英寸硬盘或固态硬盘

QGD-1600P 兼容 2.5 英寸硬盘和 2.5 英寸固态硬盘。



警告

- 安装硬盘将删除硬盘上的所有数据。

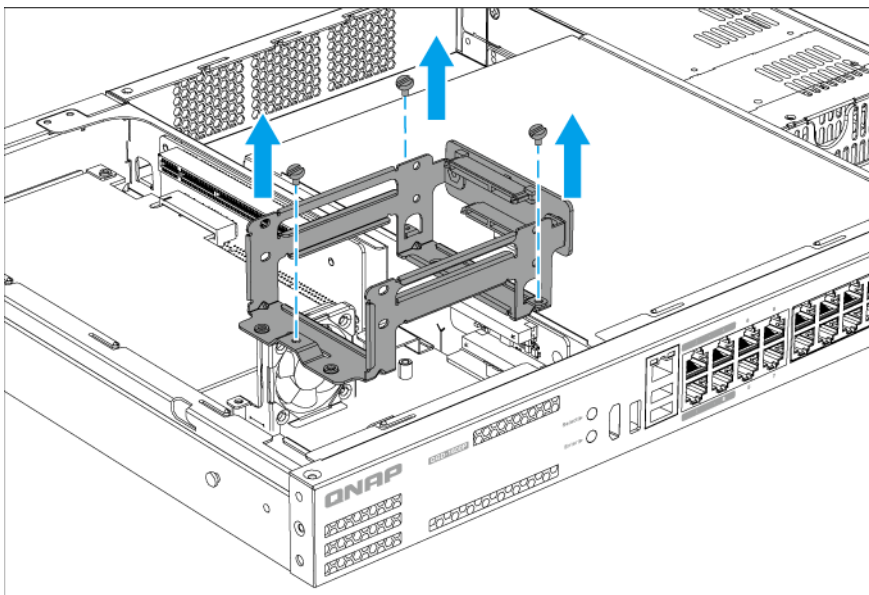


转动的风扇叶片：使您的双手和身体其他部位远离正在转动的风扇叶片。

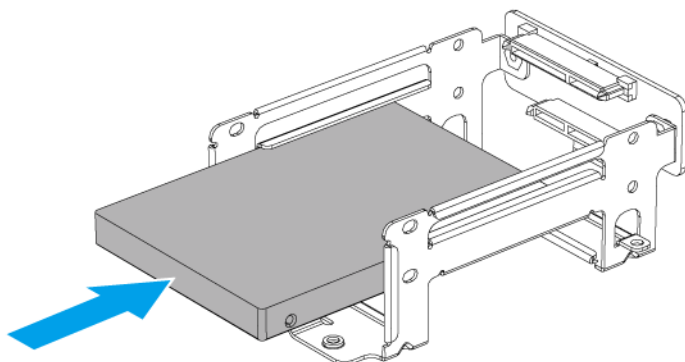


其他运动的组件：使您的双手和身体其他部位远离正在运动的其他组件。

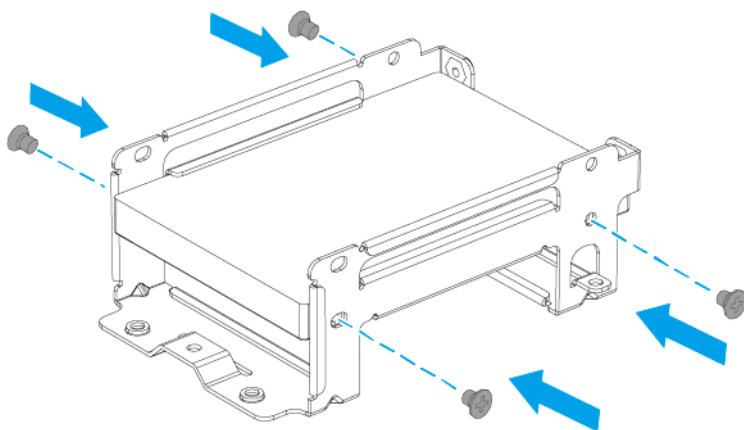
1. 关闭交换机。
2. 然后取下盖子。
有关详细信息，请参见[取下外壳盖](#)。
3. 取下硬盘模块。
 - a. 取下螺丝。
 - b. 将硬盘模块提离交换机。



4. 将硬盘安装到硬盘模块上。
 - a. 将硬盘插入插槽中。

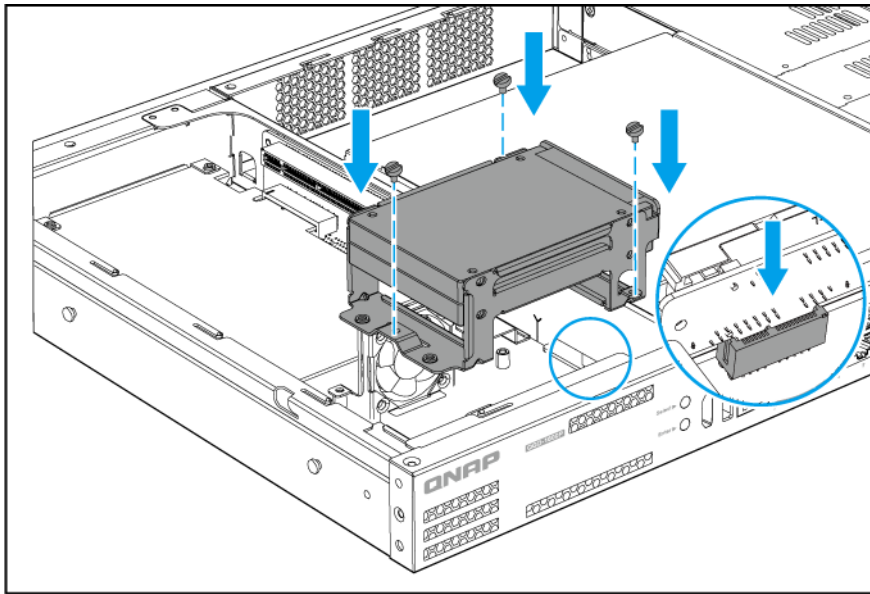


b. 安装螺丝。



5. 插入硬盘模块。

- a.** 将硬盘模块连接器与主板对齐。
- b.** 将硬盘模块放入交换机中，并将其连接到主板。
- c.** 安装螺丝。



6. 安装外壳盖。
有关详细信息，请参见[安装外壳盖](#)。
7. 启动交换机。

更换内存模块

QGD-1600P 有两个内存插槽。QGD-1600P-4G 预装了一个内存模块，而 QGD-1600P-8G 有两个预装内存模块。您可以通过升级内存模块来增加交换机的内存容量。使用两个模块时，只能使用类型和容量均相同的 QNAP 模块，以保持系统性能和稳定性。可以从授权经销商处购买 QNAP 内存模块。



警告

- 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. 关闭交换机。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。
有关详细信息，请参见[取下外壳盖](#)。

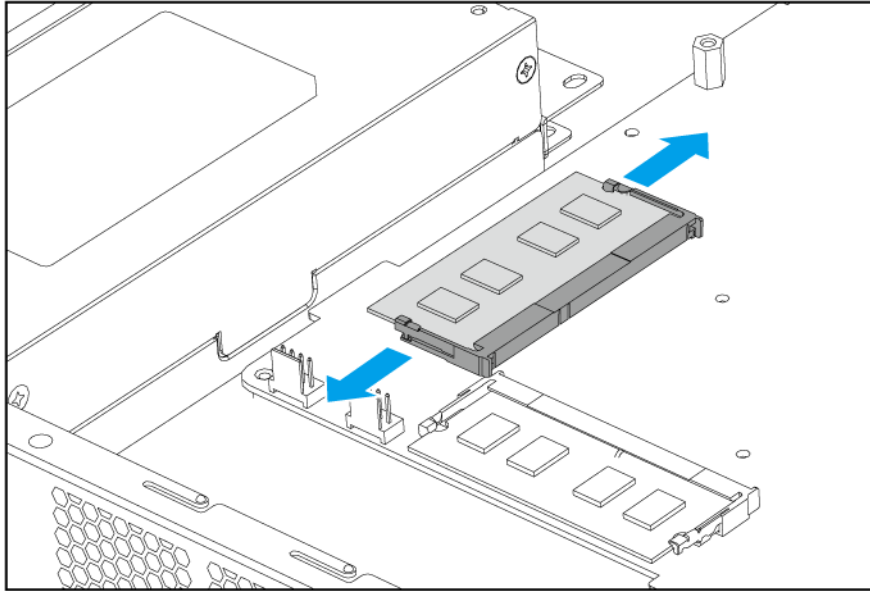
5. 取下现有模块。

- a. 同时向外推动固定夹以释放模块。



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。

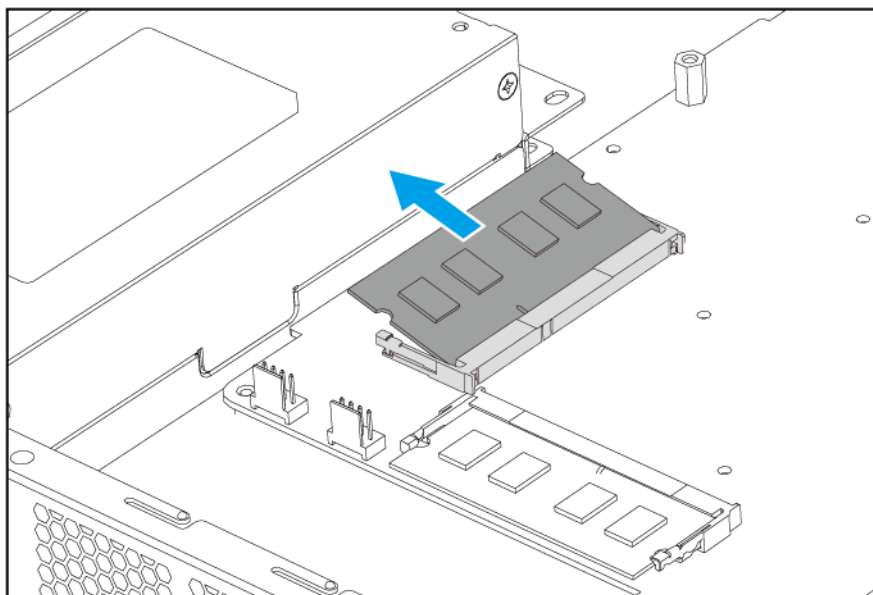


- b. 确认模块向上倾斜并已完全脱离插槽。
- c. 握住模块边缘。
- d. 小心将模块滑出插槽。



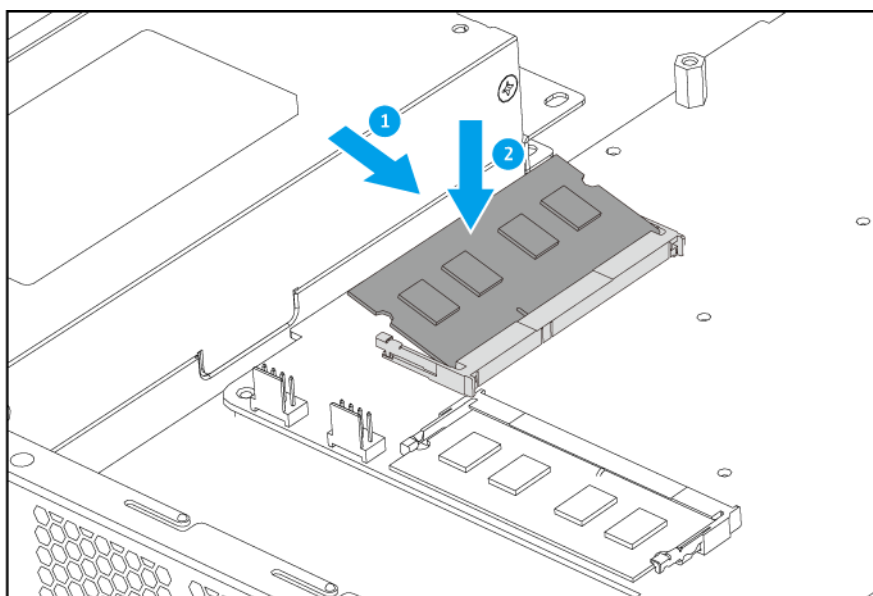
警告

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。



6. 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。



7. 安装外壳盖。

有关详细信息，请参见[安装外壳盖](#)。

8. 连接所有线缆和外接部件。
9. 将电源线连接到插座。

10. 启动交换机。

安装扩展卡

QGD-1600P 支持精选的扩展卡，其中一些需要 QNAP PCIe 支架。从公司网站购买的 QNAP 扩展卡随附有适合所有 QNAP 设备的支架。

有关支持的扩展卡和支架的详细信息，请转到 <http://www.qnap.com/compatibility>。



警告

- 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。

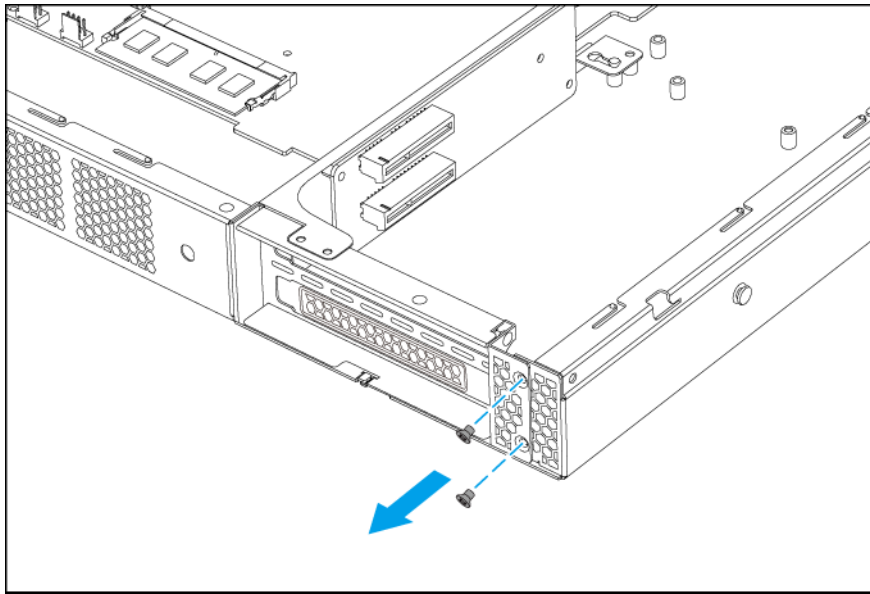
1. 关闭交换机。
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 取下外壳盖。
有关更多信息，请参见[取下外壳盖](#)。



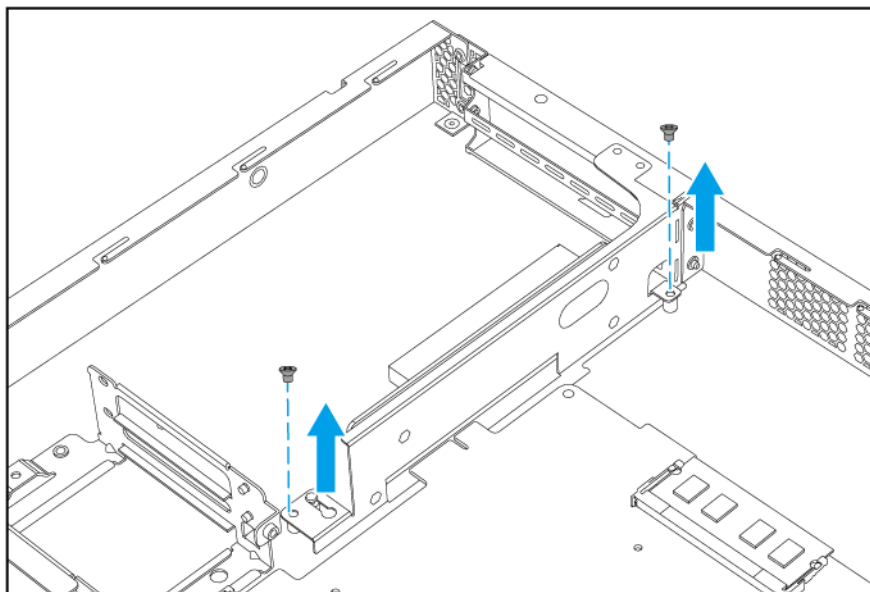
警告

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。

5. 取下 PCIe 模块。
 - a. 取下后面板上的螺丝。

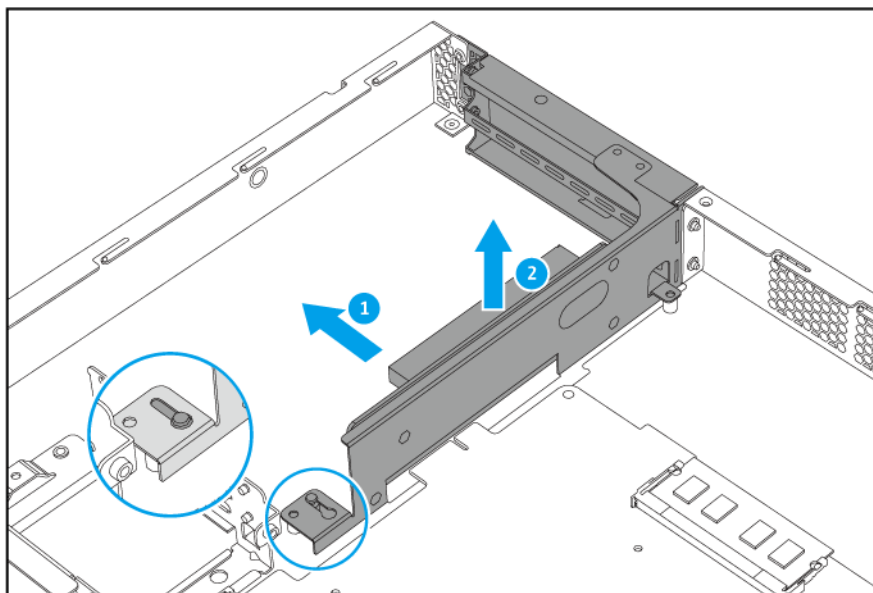


b. 取下 PCIe 模块螺丝。



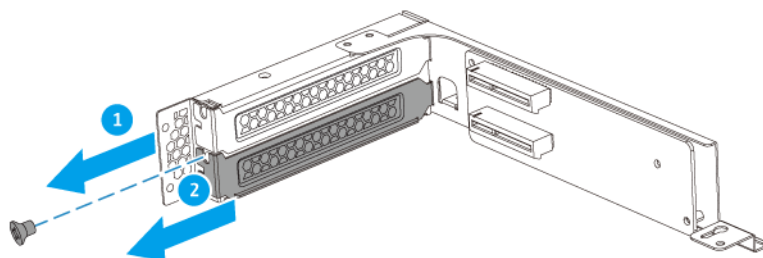
c. 将 PCIe 模块滑到右侧，直到其完全脱离系统主板。

d. 取下 PCIe 模块。



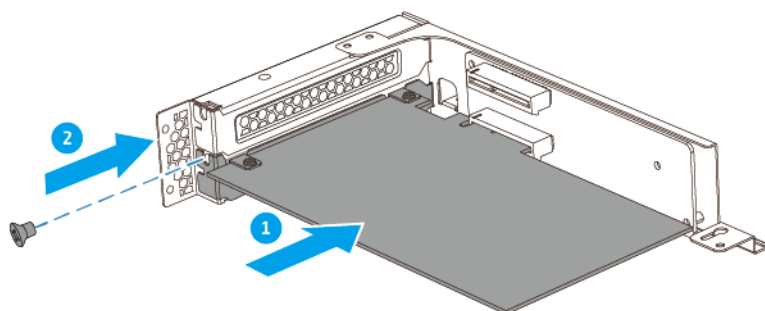
6. 取下 PCIe 插槽盖板。

- a. 卸下用于将盖板固定到机箱的螺丝。
- b. 将盖板滑到左侧。



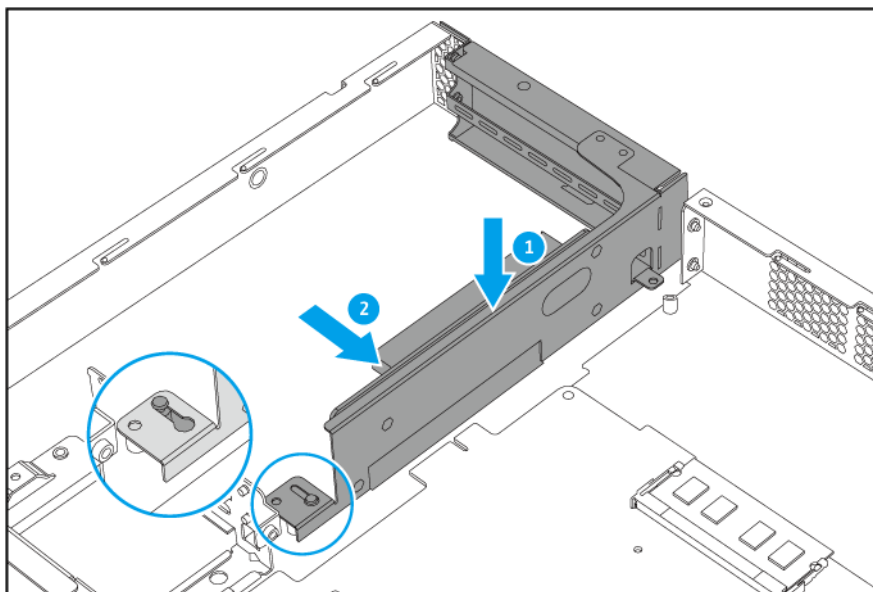
7. 安装扩展卡。

- a. 握住卡片边缘。
- b. 将其插入插槽中。
- c. 安装螺丝。

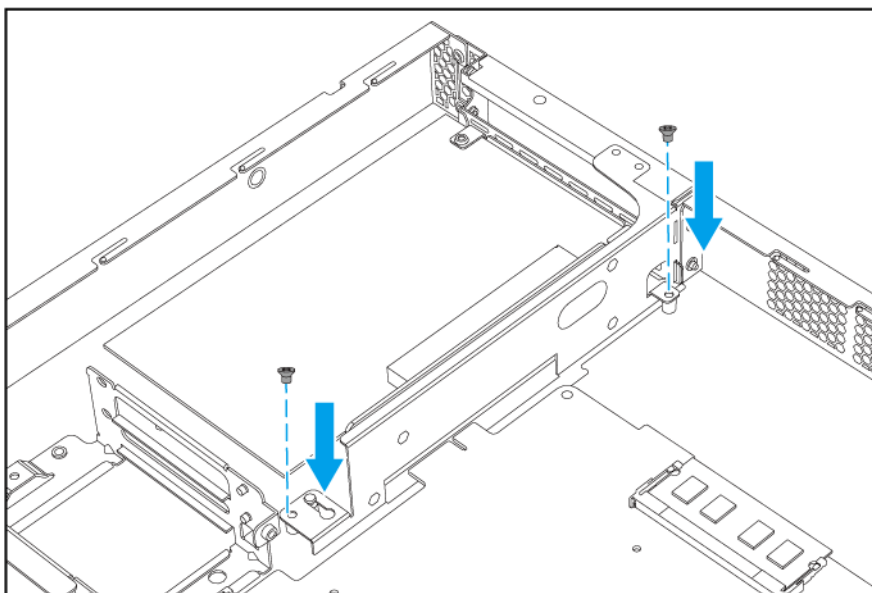


8. 安装 PCIe 模块。

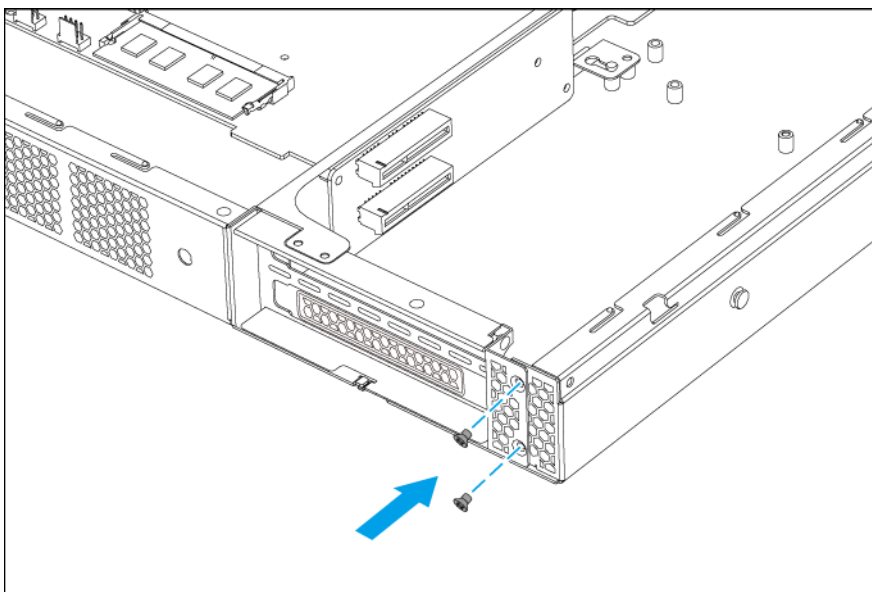
- a. 将 PCIe 模块连接器与系统主板对齐。
- b. 将 PCIe 模块滑到左侧，直至与系统主板紧密连接。



- c. 装上 PCIe 模块螺丝。



d. 装上后面板螺丝。

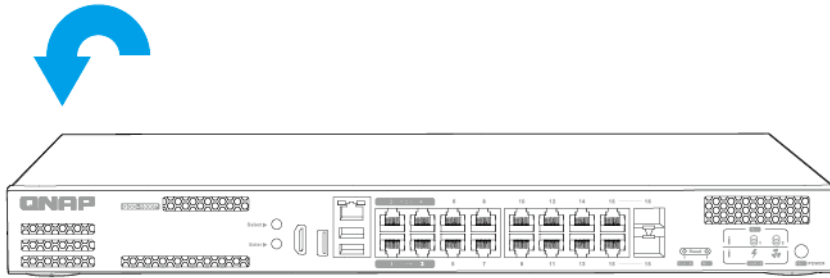


9. 安装外壳盖。
有关详细信息，请参见[安装外壳盖](#)。
10. 连接所有线缆和外接部件。
11. 将电源线连接到插座。
12. 启动交换机。

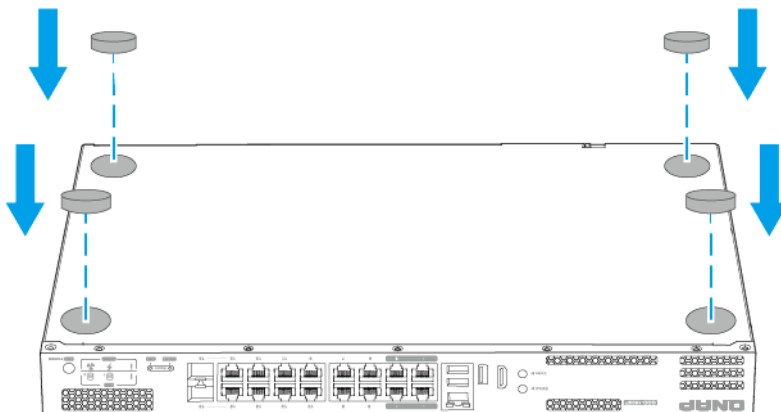
为交换机安装橡胶垫脚

1. 关闭交换机。

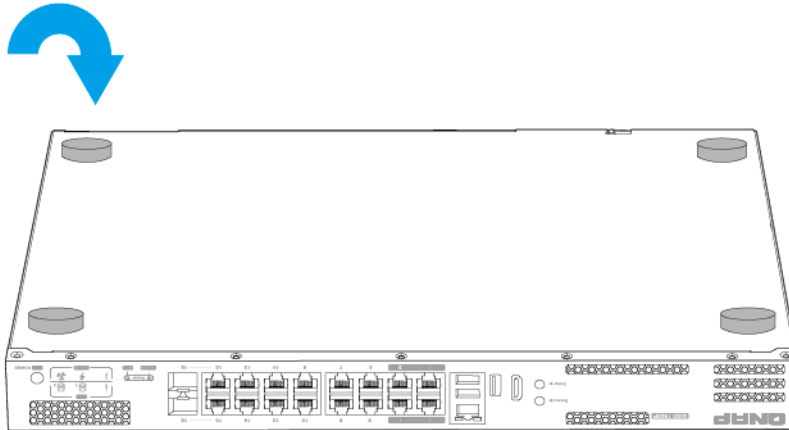
2. 从插座上拔下电源线。
3. 拔掉所有线缆和外接部件。
4. 将交换机倒置。



5. 安装橡胶垫脚。
 - a. 取下橡胶垫脚的保护膜。
 - b. 安装橡胶垫脚。



- c. 将交换机正常直立放置。



6. 连接所有线缆和外接部件。
7. 将电源线连接到插座。
8. 启动交换机。

安装交换机支架

QGD-1600P 包装中包含前安装支架，用于在机架上安装交换机。交换机兼容以下导轨套件型号和配件：

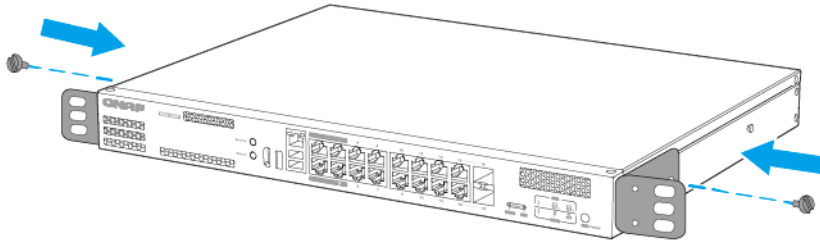
- RAIL-B02
- SP-EAR-BLK-01

导轨套件和配件未随交换机提供，必须单独购买。有关详细信息，请联系授权经销商或转到 <http://shop.qnap.com>。



提示

- QNAP 建议先完成所有其他硬件安装，然后再将交换机安装到机架上。
 - QNAP 建议将交换机安装在通风良好且空气流通的机架上。
1. 关闭交换机。
 2. 从插座上拔下电源线。
 3. 拔掉所有线缆和外接部件。
 4. 将角码安装到交换机上。
 - a. 将角码上的孔对准机箱上的孔。
 - b. 装上将支架固定到交换机的螺丝。



将交换机连接到计算机或网络

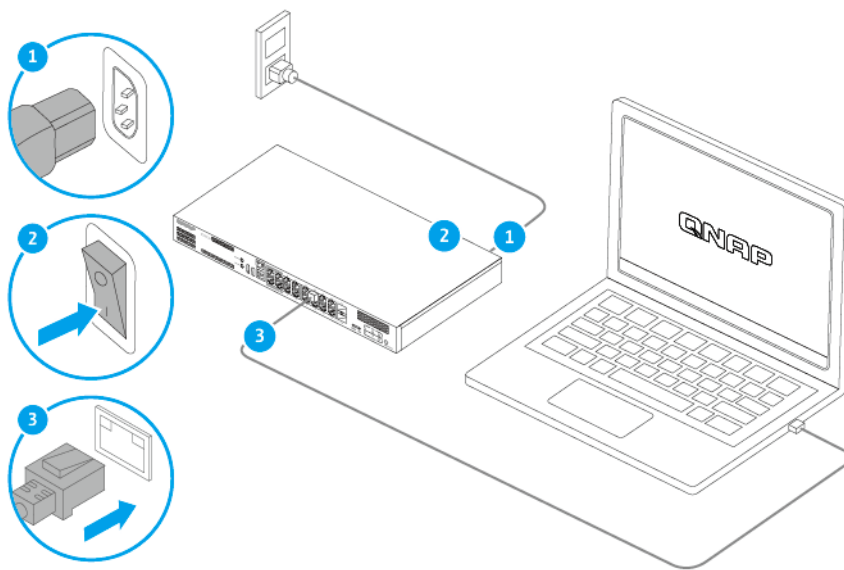
QGD-1600P 可以连接到计算机或局域网。有关详细信息，请参见以下主题：

- [将交换机连接到计算机](#)
- [将交换机连接到网络](#)

将交换机连接到计算机

将 QGD-1600P 连接到 QNAP NAS 可以扩展存储容量，还可通过连接到交换机 PoE 端口的以太网线将数据备份到另一 NAS。但是，必须将 QGD-1600P 连接到计算机才能配置交换机设置。

1. 启动交换机。
2. 将交换机连接到计算机。
 - a. 将以太网线连接到交换机上的 PoE 端口。
 - b. 将以太网线连接到计算机上的千兆位以太网端口。



3. 确认计算机能够识别该交换机。
 - a. 在主机计算机上打开 Qfinder Pro。



注

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

- b. 在列表上找到所需交换机。

将交换机连接到网络

QGD-1600P 可以通过主机端口或 PoE 端口连接到局域网。

1. 启动交换机。
2. 通过以下端口类型之一将交换机连接到局域网：

类型	方法
主机端口	选择从 LCD 面板上的 Adapter 1（适配器 1）获得的交换机 IP 地址。
PoE 端口	选择从 LCD 面板上的 Adapter 2（适配器 2）或 Adapter 3（适配器 3）获得的交换机 IP 地址。

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 Qfinder Pro 搜索栏中输入 IP 地址。
5. 在列表中找到交换机，然后双击名称或 IP 地址。
此时会出现 QTS 登录屏幕。
6. 输入 QTS 登录信息。

7. 单击登录。

连接 USB 扩展单元

QGD-1600P 支持 USB 扩展单元。有关详细信息，请参考下表。

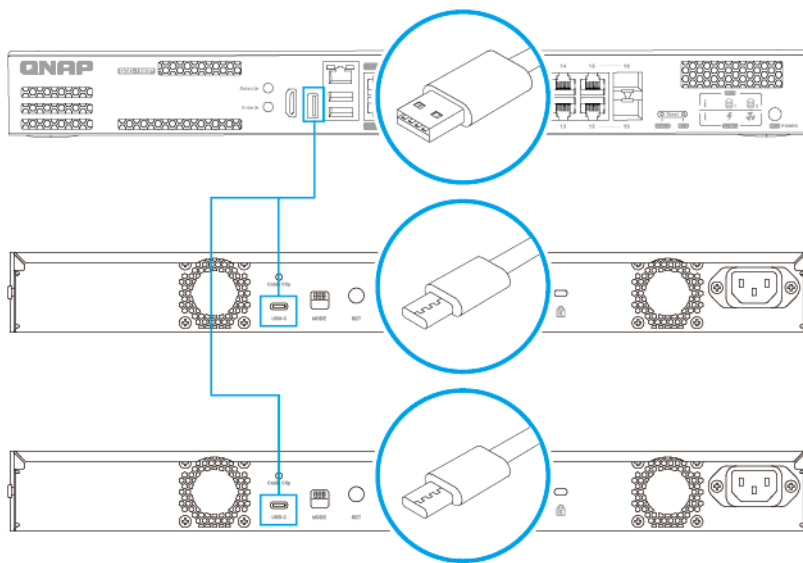
有关兼容扩展单元的列表和最大可应用扩展单元数，请转到 <http://www.qnap.com/go/compatibility-expansion>。

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"> • 使用 USB 3.2 Gen 2 C 型接口 • 支持 SATA 硬盘 	<ul style="list-style-type: none"> • USB 3.2 Gen 2 A 型至 C 型线缆 • USB 3.2 Gen 2 C 型至 C 型线缆
TR-004	<ul style="list-style-type: none"> • 使用 USB 3.2 Gen 1 C 型接口 • 支持 SATA 硬盘 	<ul style="list-style-type: none"> • USB 3.2 Gen 2 A 型至 C 型线缆 • USB 3.2 Gen 2 C 型至 C 型线缆
TR-004U		<ul style="list-style-type: none"> • USB 3.2 Gen 1 A 型至 C 型线缆 • USB 3.2 Gen 2 C 型至 C 型线缆 • RAIL-B02

1. 将扩展单元连接到交换机。
 - a. 将 USB 线缆连接到扩展单元上的 USB C 型端口。
 - b. 将 USB 线缆连接到交换机上的 USB A 型端口。



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

QTS 安装

安装方法	描述	要求
Qfinder Pro (推荐)	如果交换机已连接到您的局域网，可以执行以下操作： <ul style="list-style-type: none"> • 使用 Qfinder Pro 定位交换机。 • 完成“智能安装指南”向导中的步骤。 	<ul style="list-style-type: none"> • 计算机 • 网线 • Qfinder Pro 安装程序
云	如果交换机已连接到 Internet，可以执行以下操作： <ul style="list-style-type: none"> • 扫描交换机上的二维码。 • 指定 Cloud Key。 • 登录您的 myQNAPcloud 帐户。 • 使用 myQNAPcloud Link 远程访问交换机。 • 完成“智能安装指南”向导中的步骤。 	<ul style="list-style-type: none"> • 计算机或移动设备 • myQNAPcloud 帐户 • Cloud Key

安装方法	描述	要求
本地	<p>如果交换机支持 HDMI 输出，可以执行以下操作：</p> <ul style="list-style-type: none"> • 将交换机连接到所需的硬件。 • 完成“智能安装指南”向导中的步骤。 	<ul style="list-style-type: none"> • 监视器 • HDMI 线缆 • USB 键盘或遥控器（仅部分型号提供）

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. 启动交换机。
2. 将交换机连接到您的局域网中。



提示

可以通过主机端口或任何 PoE 端口连接到局域网。

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. 在列表中找到交换机，然后双击名称或 IP 地址。
智能安装指南将在默认 Web 浏览器中打开。
5. 单击启动**智能安装指南**。
6. 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。
7. 单击**下一步**。
8. 指定时区、日期和时间。



提示

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

9. 单击**下一步**。
10. 选择**自动获取 IP 地址(DHCP)**。
11. 单击**下一步**。
12. 选择将用于访问交换机上共享文件夹的设备类型。
13. 单击**下一步**。
14. 检查设置。
15. 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。

16. 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. 启动交换机。
2. 将交换机连接到 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/>。
 - 使用移动设备扫描交换机上的二维码。

网页中会列出本地网络上所有尚未初始化的 QNAP 设备。

4. 从列表中找到您的交换机，然后单击**初始化**。



注

如果未列出您的交换机，请按网页上的说明指定交换机上的 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. 为交换机指定 myQNAPcloud 设备名称。



注

- myQNAPcloud 设备名称用于远程访问交换机。
- 因安全原因，在您的交换机上初始化 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**。
智能安装指南将在默认 Web 浏览器中打开。

8. 单击**启动智能安装指南**。

9. 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。

10. 单击**下一步**。

11. 指定时区、日期和时间。



提示

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

12. 单击下一步。
13. 选择自动获取 IP 地址(DHCP)。
14. 单击下一步。
15. 选择将用于访问交换机上共享文件夹的设备类型。
16. 单击下一步。
17. 检查设置。
18. 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。

19. 单击**确认**。
QTS 即安装完毕。

使用 HDMI 连接安装 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. 将 HDMI 显示器连接到交换机。
2. 将 USB 键盘连接到交换机或准备好 QNAP 红外遥控器（仅部分型号提供）。
3. 启动交换机。
此时会出现“智能安装指南”的**欢迎**屏幕。
4. 选择**启动智能安装指南**。
5. 选择**否，跳过此过程**。
启用多媒体功能后，可以在“存储与快照总管”中配置磁盘后安装多媒体应用程序。
有关在 QTS 上启用多媒体功能的详细信息，请参见《QTS 用户指南》的“系统管理”一节。
6. 选择**稍后配置**。
有关配置磁盘的详细信息，请参见《QTS 用户指南》的“存储与快照总管”一节。
7. 检查设置。
8. 单击**下一步**。
9. 检查设置。
10. 单击**下一步**。
此时会出现**确认**屏幕。



警告

单击**下一步**后，将先删除硬盘上的所有数据，然后再安装 QTS。

- 单击下一步。
QTS 即安装完毕。

交换机管理应用程序访问

可以使用以下应用程序管理 QGD-1600P 交换机：

应用程序	描述
QuNetSwitch	QTS 的交换机管理应用程序。QuNetSwitch 预装在 QTS 中。
QSS	QNAP 交换机的交换机管理系统。QSS 预装在交换机上。

有关详细信息，请参见以下主题：

- 在 QTS 中访问 [QuNetSwitch](#)
- 使用 [Qfinder Pro](#) 访问 QSS

在 QTS 中访问 QuNetSwitch



注
必须先创建一个默认系统卷，然后才能使用 QuNetSwitch。
有关更多详细信息，请参见《QTS 用户指南》。

- 启动交换机。
- 登录 QTS。



注
有关详细信息，请参见[将交换机连接到网络](#)。

- 转到主菜单 > QuNetSwitch。
- 继续管理交换机。



注
有关交换机管理的详细信息，请参见《QuNetSwitch 用户指南》。

使用 Qfinder Pro 访问 QSS



注
必须先创建一个默认系统卷，然后才能使用 QuNetSwitch。

- 启动交换机。
- 将交换机连接到您的局域网中。
有关详细信息，请参见[将交换机连接到网络](#)。
- 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>。

- 输入交换机 IP 地址。

交换机 IP 地址将显示为 %yourNAS name%- switch。

5. 在列表中找到交换机，然后双击名称或 IP 地址。
此时会出现 QSS 登录屏幕。

6. 登录 QSS。
QSS 默认登录详细信息如下：

- 帐户名称：admin
- 密码：admin

此时会出现欢迎窗口。

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. 继续管理交换机。



注


有关交换机管理的详细信息，请参见《QuNetSwitch 用户指南》。

4. 基本操作

本章介绍交换机的基本操作。

按钮

主机电源按钮

操作	用户操作	结果
启动电源	按下此按钮一次。	交换机电源开启并登录 QTS。
关闭电源	按住此按钮 1.5 秒钟。	交换机电源关闭并从 QTS 注销。
强制关机	按住此按钮 5 秒钟。	交换机关闭。  重要 仅当交换机无响应时才能使用此方法。

交换机重置按钮

操作	用户操作	结果
重置	按住此按钮 3 秒钟。	交换机即会重置并恢复所有默认设置。

QTS 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。	以下 QTS 设置将恢复为默认设置： <ul style="list-style-type: none"> 系统管理员密码：admin TCP/IP 配置：通过 DHCP 自动获取 IP 地址设置。 禁用巨型帧。 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)”。 系统端口：8080（系统服务端口） 安全等级：低（允许所有连接） LCD 面板密码：（空白） VLAN：禁用
高级系统重置	按住此按钮 15 秒钟。	恢复默认 QTS 设置。  提示 要在高级系统重置后检索旧数据，请在交换机上重新创建先前的文件夹结构。

LCD 面板

查看 TCP/IP 设置

您可以查看交换机上每个网络适配器的以下设置：

- IP 地址
- 子网掩码
- 默认网关
- 主 DNS
- 辅助 DNS

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示交换机名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 按住 **Enter** (确认)。
面板会显示第一个网络适配器的 IP 地址。
4. 按住 **Select** (选择) 以查看下一个 TCP/IP 屏幕。
5. 可选: 根据需要重复第 4 步。

配置 TCP/IP 设置

您可以为交换机上的每个网络适配器配置以下设置：

- IP 地址
- 子网掩码
- 默认网关
- 主 DNS
- 辅助 DNS

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示 NAS 名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 按住 **Enter** (确认)。
面板会显示第一个网络适配器的 IP 地址。
4. 反复按 **Select** (选择)，直到面板显示 Enter Network Settings (输入网络设置)。
5. 按住 **Enter** (确认)。
面板会显示可配置的网络设置。
6. 按 **Select** (选择) 和 **Enter** (确认) 以配置设置。

按钮	用途
Enter (确认)	<ul style="list-style-type: none"> 显示配置屏幕。 移动到配置屏幕中的下一个项目。
Select (选择)	<ul style="list-style-type: none"> 移动到菜单中的下一个项目。 修改配置屏幕上的值。

查看硬盘信息

LCD 面板可以显示交换机中安装的每个硬盘的温度和容量。

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示交换机名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 2.Physical disk (主菜单 2. 物理磁盘)。
4. 按住 **Enter** (确认)。
面板会显示插槽 1 中安装的硬盘的温度和容量。
5. 按住 **Select** (选择)。
面板会显示下一个硬盘的温度和容量。
6. 可选: 根据需要重复第 5 步。

查看系统信息

LCD 面板可显示 CPU 温度、系统温度和系统风扇转速。

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示交换机名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 4.System (主菜单 4. 系统)。
4. 按住 **Enter** (确认)。
面板会显示 CPU 和系统温度。
5. 按住 **Select** (选择)。
面板会显示系统风扇转速。

关闭交换机电源

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示交换机名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认), 直到面板显示 Main Menu 5.Shut down (主菜单 5. 关闭)。
4. 按住 **Enter** (确认)。

交换机关机。

重新启动交换机

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示交换机名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认)，直到面板显示 Main Menu 6.Reboot (主菜单 6. 重启)。
4. 按住 **Enter** (确认)。
交换机即会重新启动。

更改 LCD 密码

为 LCD 面板指定密码可以防止未经授权的访问。

1. 按 **Enter** (确认) 或 **Select** (选择)。
面板会显示交换机名称和 QTS 版本。
2. 按住 **Enter** (确认) 两秒钟。
面板会显示 Main Menu 1.TCP/IP (主菜单 1. TCP/IP)。
3. 反复按 **Enter** (确认)，直到面板显示 Main Menu 7.Password (主菜单 7. 密码)。
4. 按住 **Enter** (确认)。
此时会显示 Change Password (更改密码) 屏幕。
5. 按住 **Enter** (确认) 选择 **Yes** (是)。
此时会显示 New Password (新密码) 屏幕。
6. 按 **Select** (选择) 和 **Enter** (确认) 指定新密码。
 - 指定密码。
 - 指定 1 至 8 个字符的密码。密码只能包含数字 (0 至 9)。
 - 要移除密码，请将密码字段设置为空白。

按钮	用途
Enter (确认)	移动到 New Password (新密码) 屏幕中的下一个项目。
Select (选择)	更改 New Password (新密码) 和 Verify Password (验证密码) 屏幕中的数字。

7. 按 **Enter** (确认)。
交换机会保存密码。

LCD 错误消息

系统消息	描述
Sys.Fan Failed (系统风扇故障)	系统风扇有故障。
Sys.Overheat (系统过热)	系统温度过高。

系统消息	描述
HDD Overheat (硬盘过热)	硬盘温度过高。
CPU Overheat (CPU 过热)	CPU 温度过高。
Network Lost (网络丢失)	LAN1、LAN2、LAN3 和 LAN4 在故障转移或负载平衡模式下断开连接。
LAN1 Lost (LAN1 丢失)	LAN1 已断开连接。
LAN2 Lost (LAN2 丢失)	LAN2 已断开连接。
LAN3 Lost (LAN3 丢失)	LAN3 已断开连接。
LAN4 Lost (LAN4 丢失)	LAN4 已断开连接。
HDD Failure (硬盘故障)	硬盘出现故障。
Vol1 Full (Vol1 已满)	卷已满。
HDD Ejected (硬盘弹出)	硬盘已弹出。
Vol1 Degraded (Vol1 已降级)	卷 1 处于降级模式。
Vol1 Unmounted (Vol1 已卸载)	卷 1 已卸载。
Vol1 Nonactive (Vol1 未激活)	卷 1 处于非活动状态。

LED

开启交换机电源后，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交换机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
主机电源	绿色	主机系统准备就绪。
	闪烁绿色，间隔 1.0 秒	主机系统正在启动。
	红色	主机系统发生致命错误。
	熄灭	主机系统已关机。
硬盘 1	绿色	硬盘运行正常。
	红色	发生错误。
	熄灭	未检测到硬盘。
硬盘 2	绿色	硬盘运行正常。
	红色	发生错误。
	熄灭	未检测到硬盘。
交换机电源	绿色	交换机准备就绪。
	闪烁绿色，间隔 1.0 秒	交换机正在启动。
	红色	交换机系统发生致命错误。
	熄灭	交换机系统已关机。
PoE	绿色	PoE 状态正常。
	红色	发生 PoE 致命错误。
风扇	绿色	风扇状态正常。
	红色	风扇发生致命错误。

LED	状态	描述
PoE 端口速度	闪烁绿色, 间隔 1.0 秒	链路以 1 Gbps 的速度运行。
	闪烁琥珀色, 间隔 1.0 秒	链路以 10/100 Mbps 的速度运行。
	熄灭	未检测到链路。
PoE 端口活动/链路	绿色	交换机已连接至电源设备。
	琥珀色	电源设备发生错误。
	熄灭	未检测到电源设备。
Combo 端口速度	闪烁绿色, 间隔 1.0 秒	链路以 1 Gbps 的速度运行。
	闪烁琥珀色, 间隔 1.0 秒	链路以 10/100 Mbps 的速度运行。
	熄灭	未检测到链路。
Combo 端口活动/链路	闪烁琥珀色, 间隔 1.0 秒	正在传输数据。

警告音

时长	频率	描述
短提示音 (0.5 秒)	1	<ul style="list-style-type: none"> 设备正在启动。 设备正在关闭 (软件关闭)。 用户已按下“交换机重置”按钮。 操作系统已更新。
长提示音 (1.5 秒)	3 (每 5 分钟)	系统风扇故障。
	2	<ul style="list-style-type: none"> 磁盘卷的容量即将被占满。 磁盘卷的容量已满。 硬盘处于降级模式。 用户已启动硬盘重建过程。 已断开或已连接硬盘。
	1	<ul style="list-style-type: none"> 设备已通过强制关闭关机 (硬件关闭)。 设备已成功开机并准备就绪。
长提示音 (5 秒)	1	QTS 正在重新启动。

5. 故障排除

本章介绍基本故障排除信息。

热插拔故障硬盘

在以下情况下，交换机支持热插拔硬盘：

- 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. 从交换机中取下故障硬盘。
6. 等待 20 秒或交换机发出两声提示音。
7. 从硬盘托盘中取下故障硬盘。
8. 将硬盘插入硬盘托盘中。
9. 安装新硬盘。
此时交换机会发出两声提示音。
10. 转到**主菜单 > 存储与快照总管 > 存储空间**。
11. 找到包含新硬盘的卷，然后确认状态为正在重建。

强制 Qfinder Pro 和 myQNAPcloud 定位交换机

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

1. 关闭交换机。
2. 取下所有硬盘。
3. 启动交换机。
4. 使用 Qfinder Pro 定位交换机。
5. 重新插入硬盘。
6. 继续安装 QTS。

支持和其他资源

QNAP 提供了以下资源：

资源	URL
文档	https://docs.qnap.com
服务门户	https://service.qnap.com
下载	https://download.qnap.com
社区论坛	https://forum.qnap.com

6. 术语表

myQNAPcloud

提供各种远程访问服务，如 DDNS 和 myQNAPcloud Link

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

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

QuNetSwitch

在 QTS 操作系统上运行的 QNAP 交换机管理应用程序

QTS

QNAP NAS 操作系统

QSS

QNAP 交换机管理应用程序

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Version 3, 29 June 2007

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The “source code” for a work means the preferred form of the work for making modifications to it.

“Object code” means any non-source form of a work.

A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

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“Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

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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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