# QNAP

## 8 / 12 / 16-bay NAS

# TS-x73U Series

AMD R Series RX-421ND quad-core 2.1 GHz CPU (Turbo Core up to 3.4 GHz), supports up to 64GB DDR4 memory and 10GbE connectivity

**CITRIX** ready

**Windows Server 2012** Certified

**vmware** READY

**AMD** EMBEDDED SOLUTIONS **R** SERIES x

## Qtier | Storage Tiering

2 x M.2 SATA 6Gb/s SSD slots for Qtier automatic storage tiering and SSD caching
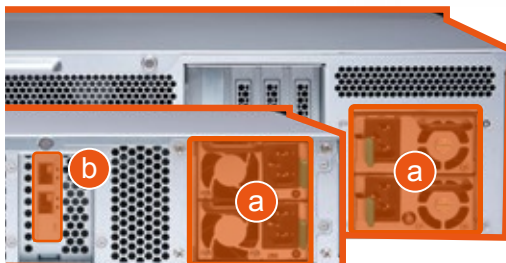
## QRM+ | Device Manager

QRM+ provides a centralized device management solution for Windows®, Linux® and IPMI-compatible devices

TS-1673U-RP / TS-1673U

**a** Redundant power supplies
TS-1673U-RP, TS-1273U-RP, TS-873U-RP
**b** Two 10GbE SFP+ LAN ports

## Centralized data storage

Supports virtualization, centralized storage, backup, sharing, and disaster recovery and provides QmailAgent (email agent), Qsirch (full-text file search) and Qcontactz (contacts manager).

## QVR Pro surveillance system

Provides dedicated storage space for surveillance data, and leverages the advantages of storage manageability from QTS.

## Increase reliability & performance with RAID 50/60

Create a highly protected storage with increased performance and capacity.

## On-demand storage expansion

Storage capacity can be easily expanded by connecting a QNAP expansion unit. Owners of multiple QNAP NAS can also use VJBOD to allocate unused storage capacity from one NAS to another.

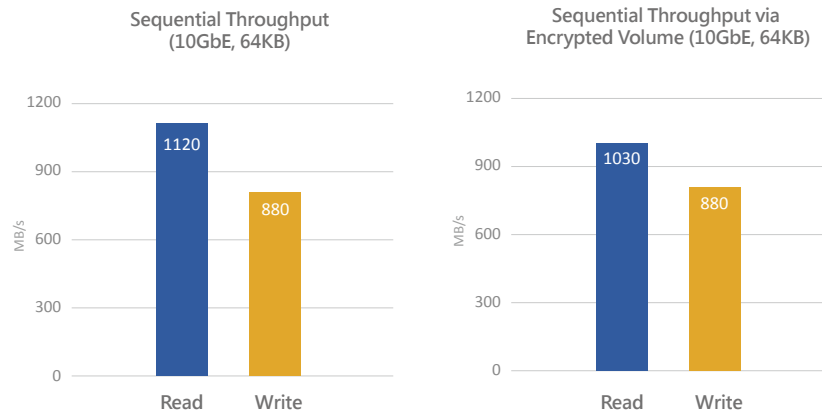TS-1673U / TS-1673U-RP

TS-1273U / TS-1273U-RP

TS-873U / TS-873U-RP

## AMD R-Series quad-core CPU, up to 64GB RAM, and AES-NI encryption acceleration

The TS-x73U is equipped with a next-gen AMD R-Series RX-421ND quad-core 2.1 GHz processor (burst up to 3.4 GHz), dual channel 8GB/16GB/64GB DDR4 RAM (upgradable to 64GB), and four Gigabit LAN ports for lightning-fast multi-tasking with low power consumption and the ability to deliver up to 1531 MB/s throughput with a 10GbE configuration. The TS-x73U's accelerated encryption engine with AES-NI provides unmatched encryption performance in its class (up to 1315 MB/s with AES 256-bit full NAS volume encryption) to boost system performance, security, and ensure the safety of sensitive business data stored in the NAS.

**Sequential Throughput (10GbE, 64KB)**

| | Read | Write |
|---|---|---|
| MB/s | 1120 | 880 |

**Sequential Throughput via Encrypted Volume (10GbE, 64KB)**
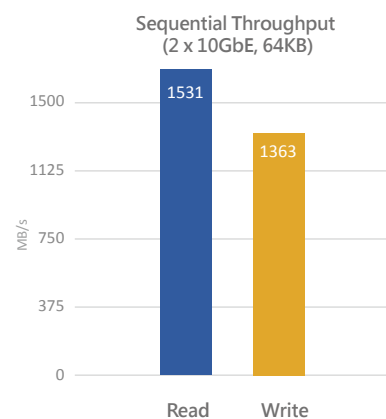
| | Read | Write |
|---|---|---|
| MB/s | 1030 | 880 |

Tested in QNAP Labs. Data may vary due to differences in physical environments.

Test environment:
NAS: TS-1273U-8G with QTS 4.3.3
Volume type: RAID 5; 12 x Intel S3500 240GB SSDs (SSDSC2BB240G4)
Client PC:
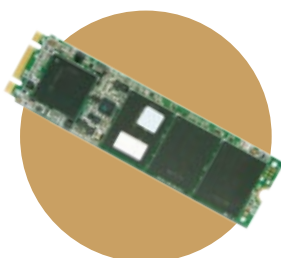Intel® Core™ i7-4770 3.40GHz CPU; 16GB RAM; Mellanox 10GbE NIC ; Windows® 10 64-bit

## 10GbE SFP+ network capability

The TS-x73U features a PCIe (Gen.3 x4) slot, preinstalled with a dual-port 10GbE SFP+ network card. This allows for greater flexibility in setting up 10GbE environments for high-performance virtualization and backup tasks.

**Sequential Throughput (2 x 10GbE, 64KB)**

| | Read | Write |
|---|---|---|
| MB/s | 1531 | 1363 |

## M.2 SSD & 2.5" SSD cache with Qtier optimization

The TS-x73U supports 2.5" SSD for caching to increase IOPS performance, and provides higher transfer speeds and reliability with support for two additional M.2 2280/2260SATA 6Gb/s SSDs. Using an SSD cache boosts overall system performance, and is perfect for improving the overall workflow of random IOPS demanding applications such as virtualization. The TS-x73U combines M.2 SATA SSD, 2.5" SATA SSD and high-capacity 3.5" HDD in one box to effectively realize tiered storage for exceptional application performance and lower TCO of storage at the same time.

M.2

SSD

HDD

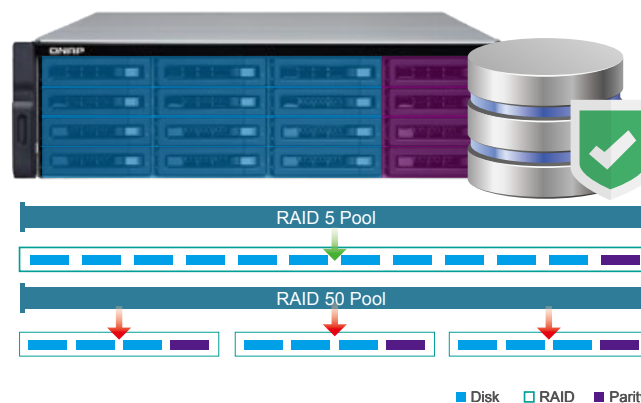## Higher reliability and performance with RAID 50/60

Aiming to provide the best practices for enterprise systems to SMB customers, QNAP adapted the nested RAID level management and now supports the RAID 50/60 Storage Pool configurations. RAID 50/60 offers more flexibility for business users to freely create a highly protected storage with increased performance and capacity using either all HDD for backup or all flash storage for online video editing or database service.



## Optimized performance for VMware Virtualization with iSER

The TS-x73U series with dual 10GbE SFP+ ports (LAN-10G2SF-MLX) supports the iSCSI Extensions for RDMA (iSER) protocol to boost data transfer performance of the NAS as VMware®ESXi storage and to reduce the CPU load of the ESXi server. iSER can provide up to 20% of increased performance, providing an essential tool to optimize demanding virtualization applications.

✎ Note: To create an iSER connection with VMware ESXi, the server requires a Mellanox® ConnectX-3 Pro compatible network card and switches compatible with Mellanox® or with PFC (Priority Flow Control) support.



## QTS 4.3 - The most intelligent and intuitive NAS operating system

The TS-x73U natively supports the new 64-bit QTS 4.3 operating system. QTS 4.3 provides robust features to enhance management efficiency, including the intelligent Qtier™ 2.0 that learns from NAS usage, analyzes system performance and peak usage hours to process auto tiering; Qfiling that helps categorize files based on schedules to make organizing files automatic and efficient, and much more. With its intuitive and simplified user interface, QTS features an intelligent desktop allows you to find desired functions quickly, create or group shortcuts, monitor important system information on a real-time basis, and open multiple application windows to run multiple tasks concurrently, bringing greater working efficiency. QTS breaks the barriers of devices, platforms, and geography to bring optimized cloud experiences and incorporates advanced features.

## Cross-platform file sharing, centralized data storage

The TS-x73U supports SMB/CIFS, NFS, and AFP protocols for file sharing across Windows®, Mac®, Linux®/UNIX® networks. Data, logs and ISO images of CDs and DVDs can be centrally stored on the TS-x73U. The Windows AD® and LDAP services enable system administrators to configure user permissions by using an existing Windows AD server, LDAP server or built-in LDAP service. The TS-x73U supports SAMBA v4 and can act as a Windows domain controller to manage privilege settings.
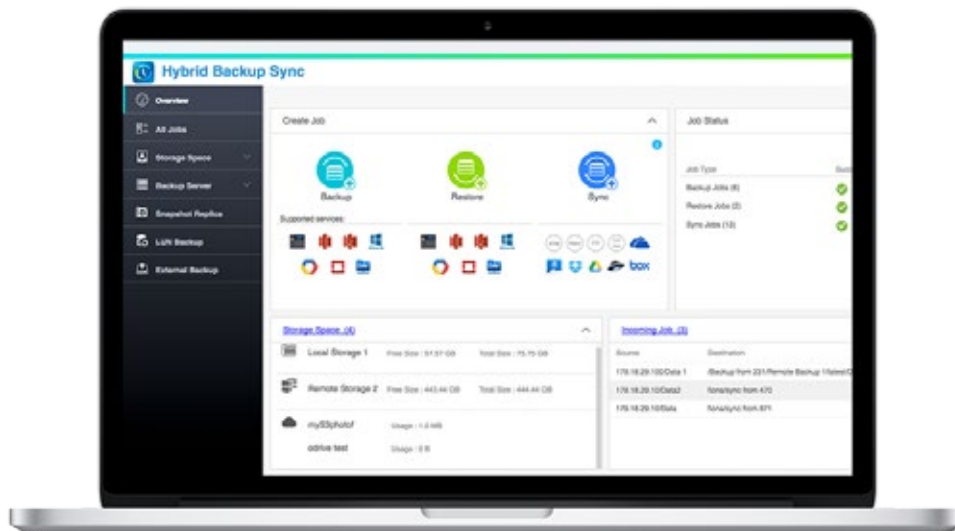
## Well-rounded backup solutions to secure data

The TS-x73U is a comprehensive centralized backup center for multiple files. You can use QNAP NetBak Replicator to back up files on Windows® (including Outlook® email archives) to the TS-x73U, or use Time Machine® for Mac® data backup. A wide range of third-party backup software such as Acronis® True Image™, Symantec Backup Exec™ and Commvault® are also supported to facilitate system backup and restoration.

## Data backup, recovery, and synchronization

QNAP Hybrid Backup Sync provides a well-rounded solution for data backup, file synchronization and disaster recovery. With Hybrid Backup Sync, you can easily and securely backup data from your NAS to several local, remote and cloud storage spaces. In the event of system crashes or critical hardware failure, you can quickly restore data from these storage spaces, minimizing downtime and reducing overall loss. Hybrid Backup Sync also takes advantage of cloud storage for one-way sync of your data to cloud storage through RTRR, Rsync, FTP, SMB protocols, or two-way sync of your NAS with remote NAS/cloud services.

## Datastore for virtualized environments

The TS-x73U is an iiSCSI/IP-SAN storage that supports VMware® and Citrix®, and is compatible with Microsoft® Hyper-V® and Windows Server 2012® R2, fulfilling the need for flexible deployment and management in virtualization environments. The TS-x73U supports VMware VAAI and Microsoft ODX to increase performance by allowing offloaded data transfer for ESXi server and Hyper-V respectively, and supports QNAP vSphere Client plug-in and QNAP SMI-S provider with enhanced operational efficiency and management in virtualization applications.

## Share and sync files across devices

The TS-x73U supports SMB, NFS and AFP, allowing you to quickly share files to Windows®, Mac®, and Linux®/UNIX® devices. With QNAP's Qsync utility, the TS-x73U becomes a safe and effective data center for file synchronization. Any file uploaded to TS-x73U can be synchronized to all the linked devices such as computers, laptops and mobile devices. You can also sync shared folders for greater flexibility of collaboration and file sharing.

## Storage for hosting virtual machines and containerized applications

Virtualization Station allows you to host virtual machines (VM) on the TS-x73U and access them via a web browser or VNC. Virtualization Station supports multiple operating systems, fast VM creation, VM backup & restoration, VM import/export, snapshot, and Device Management for centrally managing VMs. Virtualization Station allows the TS-x73U, VMs and containers to share the same LAN port. No longer constrained by physical network performance, high-speed virtual switches accelerate data transfer between VMs, containers and NAS through the internal interface. The TS-x73U also features Container Station, which integrates LXC and Docker® lightweight virtualization technologies. You can operate multiple isolated Linux® systems on the TS-x73U as well as download apps from the built-in Docker Hub Registry®. Containers Station also supports the QIoT Containers platform that helps quickly structure your IoT environment and deployment on your private IoT cloud.

## Qfiling automates your file organization

Qfiling helps automate file organization for sorting files scattered across multiple folders, helping to reduce the time needed for finding important files. Users can categorize files and determine filing conditions, and schedule filing tasks to be carried out periodically. The "Recipe" feature allows users to save frequently-used filing conditions as an "exclusive recipe", and then the next Qfiling task can be run with just one click using the recipe.

## Centralized email and contact management for improved communication workflows

It can be time-consuming to manage emails and contact information that are scattered across multiple computers, devices, and accounts - not to mention if important emails or contact information are lost or become inaccessible due to account closure or device malfunction/loss. QNAP QmailAgent and Qcontactz can help you centrally store and manage emails and contact information, making them accessible to all of your devices at any time - and with the powerful Qsirch search engine, you can easily find specific contacts and emails whenever needed.
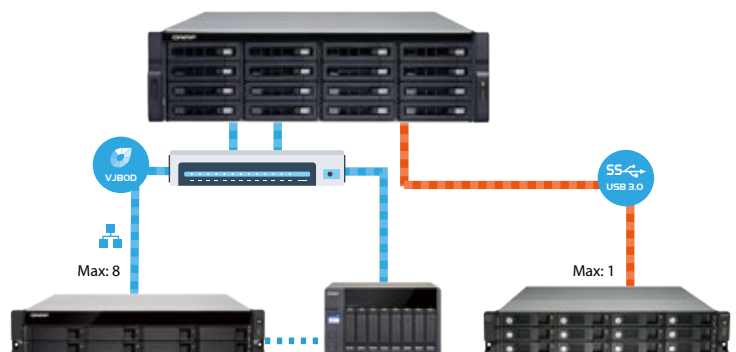
## Surveillance Station 5.1 and QVR Pro (beta)

Surveillance Station 5.1 is a network surveillance Video Management System (VMS) that offers over 3,000 compatible IP camera models and expandable IP camera channel licenses. It supports real-time monitoring, video & audio recording and playback with a wide range of customizable settings. You can also install the Vmobile app on your iOS® or Android™ devices to manage the monitored channels anytime and anywhere, or install the Vcam mobile app to turn your device into a network camera to instantly record to your TS-x73U series. The NAS offers 8 free IP camera channels, and you can expand up to 80 channels by purchasing additional licenses. The new QVR Pro (beta) integrates comprehensive video surveillance features with flexible camera controls and ensures storage expandability, flexible storage space utilization, and upgraded event management functions. The QVR Pro Client software provides an even better user experience. With the QUSBCam2 app, you can use a USB camera as an ONVIF network camera.

## Easily expand storage capacity

Besides attaching a QNAP expansion enclosure, the TS-x73U's storage capacity can also be increased by using VJBOD. With VJBOD, the storage capacity of other QNAP NAS* can be used as virtual disks that can be mounted as local disks on the TS-x73U for shares, applications, or even creating another LUN. You can use the QTS Storage Manager to easily handle NAS capacity expansion and storage expansion enclosure management. With the support of QJBOD Express (JBOD enclosures roaming)**, you can migrate data to another QNAP NAS through a JBOD enclosure without network connectivity.

Max: 8

Max: 1

*The remote QNAP NAS must support iSCSI and storage pools and use QTS 4.2.1 (or later). Up to 8 remote NAS units can be mounted.
** You must create a separate static volume or storage pool on the UX expansion unit.

# Software Specifications

| | |
|---|---|
| Supported Disk Group Types | RAID 0/1/5/6/10/50/60, RAID 1/5/6/10/50/60 + spare, single, JBOD |
| Storage Manager | Flexible disk area and LUN configuration; online storage pool RAID capacity expansion and configuration migration |
| Supported Client Systems | Windows 7, Windows 8, Windows 10, Mac OS X 10.6 or later, Linux and UNIX |
| Internal File System | EXT4 |
| External File System | EXT4, EXT3, NTFS, HFS+, FAT32, exFAT*<br>*Addional ExFAT license required |
| Supported Protocols | CIFS/SMB, AFP (v3.3), NFS(v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMSC |
| File Sharing | Maximum number of users: 4096;<br>Maximum number of user groups: 512;<br>Maximum shared folders: 512;<br>Maximum simultaneous connections: 1500 |
| Video Surveillance | Surveillance Station supports 8 free camera licensed channels. You can purchase additional licenses to expand to a maximum of 80 channels (Http://license.qnap.com) |
| Other Features | File Station, Photo Station, Music Station, Video Station, Download Station, Qsync, Notes Station, FTP Server, Print Server, VPN Server, VPN Client, Qtier, Antivirus, Qsirch, Qcontactz, QmailAgent, Qfiling |
| Streaming Server | DLNA Server, Airplay, Chromecast, iTunes Server |
| Remote Access | myQNAPcloud |

# Accessories

| Type | Ordering SKU | Description |
|---|---|---|
| Rail Kit | RAIL-B02 | Compatible with 9.5 mm x 9.5 mm square-hole server racks. Mounting post width: ≥ 17.8" / 451 mm; Panel width: ≥ 19.1" / 485 mm; Mounting post depth: 18" ~ 32" / 443~ 815 mm |
| Expansion Unit | UX-1200U-RP | QNAP 12-bay expansion unit with redundant power supplies |
| | UX-800U-RP | QNAP 8-bay expansion unit with redundant power supplies |
| Memory | RAM-16GDR4K0-UD-2400 | 16GB DDR4-2400 UDIMM RAM module |
| | RAM-8GDR4K0-UD-2400 | 8GB DDR4-2400 UDIMM RAM module |
| | RAM-4GDR4K0-UD-2400 | 4GB DDR4-2400 UDIMM RAM module |
| M.2 SSD | SSD-M2080-256GB-A01 | 256GB M.2 2280 SATA 6Gb/s SSD |
| Expansion Card | QM2-2S | Supports two M.2 2280/ 22110 SATA SSDs |
| | QM2-2P | Supports two M.2 2280/ 22110 PCIe SSDs |
| | QM2-2S10G1T | Supports two M.2 2280 SATA SSDs and provides a single-port 10GbE slot |
| | QM2-2P10G1T | Supports two M.2 2280 PCIe SSDs and provides a single-port 10GbE slot |
| | LAN-10G1T-4010A | 1-port 10GbE 10GBASE-T expansion card |
| | LAN-10G1SR | 1-port 10GbE SFP+ expansion card |
| | LAN-10G2SF-MLX | 2-port 10GbE SFP+ expansion card |
| | LAN-10G2T-X550 | 2-port 10GbE 10GBASE-T expansion card |
| | LAN-1G2T-I210 | Dual-port Gigabit RJ45 network expansion card |
| | USB-U31A2P01 | USB 3.1 Gen 2 (10Gbps) Type-A dual-port expansion card |

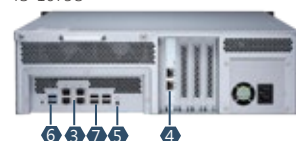Note: To install a PCIe expansion card, the pre-installed dual port 10GbE LAN card must be removed.

❶ Power Button
❷ LED Indicators: Status, LAN, USB
❸ 4 x GbE RJ45
❹ 2 x 10GbE SFP+
   (PCIe expansion card)
❺ Console Port (Maintenance)
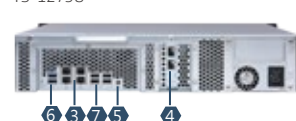❻ 2 x USB 3.0
❼ 4 x USB 2.0

TS-1673U / TS-1673U-RP

TS-1273U / TS-1273U-RP

TS-873U / TS-873U-RP

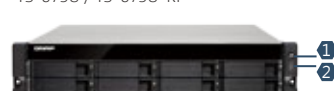TS-1673U

TS-1273U

TS-873U

TS-1673U-RP

TS-1273U-RP

TS-873U-RP

# Hardware Specifications

## Ordering Information:

**64GB RAM:** TS-1673U-RP-64G, TS-1673U-64G, TS-1273U-RP-64G, TS-1273U-64G, TS-873U-RP-64G, TS-873U-64G
**16GB RAM:** TS-1673U-RP-16G, TS-1673U-16G, TS-1273U-RP-16G, TS-1273U-16G, TS-873U-RP-16G, TS-873U-16G
**8GB RAM:** TS-1673U-RP-8G, TS-1673U-8G, TS-1273U-RP-8G, TS-1273U-8G, TS-873U-RP-8G, TS-873U-8G



| | TS-1673U-RP | TS-1673U | TS-1273U-RP | TS-1273U | TS-873U-RP | TS-873U |
|---|---|---|---|---|---|---|
| CPU | AMD R-Series RX-421ND quad-core 2.1 GHz processor, turbo core up to 3.4 GHz | | | | | |
| Encryption Acceleration | AES-NI | | | | | |
| System Memory | 64GB (4 x 16GB), 16GB (2 x 8GB), 8GB (2 x 4GB) DDR4-2400 RAM | | | | | |
| Maximum Memory | 64GB (4 x 16GB) | | | | | |
| Memory Slot | 4 x UDIMM DDR4, up to 2400MHz<br>(For dual- or quad-DIMM configurations, you must use a pair of identical DDR4 modules.) | | | | | |
| Flash Memory | 512MB DOM | | | | | |
| Drive Types | 16 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs | | 12 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs | | 8 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs | |
| M.2 SSD Slots | 2 x M.2 2280/2260 SATA 6Gb/s SSDs | | | | | |
| 10GbE LAN Ports | 2 x 10GbE SFP+ port via a preinstalled PCIe network card | | | | | |
| Gigabit LAN Port | 4 x Gigabit RJ45 LAN ports | | | | | |
| PCIe Slot | 1 x PCIe Gen 3 (x4), pre-installed with a dual-port 10GbE SFP+ LAN card | | | | | |
| USB Ports | 2 x USB 3.0 port,  4 x USB 2.0 port | | | | | |
| LED Indicator | Status/Power, LAN, USB, Drive 1 - 16 | | Status/Power, LAN, USB, Drive 1 - 12 | | Status/Power, LAN, USB, Drive 1 - 8 | |
| Button | Power/Status, Reset | | | | | |
| Maintenance Port | 1 x 3.5 mm console port | | | | | |
| Form Factor | 3U Rackmount | | 2U Rackmount | | | |
| Dimension (H x W X D) | 130 x 481 x 536 mm<br>5.12 x 18.94 x 21.10 inch | | 89 x 482 x 534 mm<br>3.5 x 18.98 x 21.02 inch | | | |
| Net Weight | 15.42 kg (34 lbs.) | 14.25 kg (31.42 lbs.) | 11.81 kg (26.04 lbs.) | 10.71 kg (23.62 lbs.) | 10.96 kg (24.16 lbs.) | 9.86 kg (21.74 lbs.) |
| Operating temperature & Relative Humidity | 0 to 40° C (32 to 104° F),  5 ~ 95% RH non-condensing, wet bulb: 27°C | | | | | |
| Power Suply | 500W (x2), 100-240V AC, 50/60 Hz | 350W, 100-240V AC, 50/60 Hz | 300W (x2), 100-240V AC, 50/60 Hz | 350W, 100-240V AC, 50/60 Hz | 250W (x2), 100-240V AC, 50/60 Hz | 250W, 100-240V AC, 50/60 Hz |
| Fan | 4 x 92 mm, 12V DC | | 2 x 70 mm, 12V DC | | | |

Model specifications are subject to change without notice. Please refer to www.qnap.com for the latest information.

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