

TerraMaster F4-425

4-Bay Home Network Storage

Datasheet



The F4-425 is the upgraded successor to the previous-generation F4-212, now powered by the all-new TOS 6 operating system. Compared to its predecessor, the F4-425 features a more powerful Intel x86 N5095 quad-core processor, 4GB DDR4 RAM, and a 2.5GbE network port, With enhanced 4K video transcoding capabilities. Perfect for home photo backups and multimedia entertainment.

Local AI-Powered Photo Management

TNAS harnesses advanced on-device AI to intelligently organize and manage vast photo libraries, with full privacy and data security protection.

It automatically recognizes and categorizes faces, pets, objects, and scenes in your selected folders, allowing you to easily sort, organize, and share photos through an intuitive graphical interface. The perfect photo management solution for home users and photography enthusiasts.

Supports previews for multiple image formats, including JPG, JPEG, PNG, GIF, BMP, WEBP, HEIC, and HEIF.

TNAS Mobile: Your All-in-One Solution

The newly redesigned TNAS Mobile features a cleaner, more intuitive UI, making it easier than ever to manage your TNAS on the go.

This all-in-one app combines automatic photo backup, AI-powered photo organization, user management, storage control, personal/team folders, secure vaults, and admin tools—delivering seamless remote access and mobile productivity.

Share precious memories with confidence through TNAS Mobile's granular controls—customizable share names, expiration dates, access limits, download permissions, and optional password protection—all secured with multi-layered security for worry-free, one-tap personalized sharing.

Access Your NAS with Unmatched PC Convenience

For seamless PC access to your NAS data, we've developed the TNAS PC Client. Files appear as a local drive, allowing you to browse, search, and edit directly in File Explorer or Finder—just like working with local files.

One-click drive mapping effortlessly expands your computer's storage capacity, making massive data management as intuitive as using a local hard drive.

PC File Sync to NAS

With the TerraSync application, any edits or saves made on your PC are instantly synchronized to your NAS in real time.

PC File Backup: Using the TNAS PC desktop client, users can back up selected folders from their computer directly to the NAS with ease.

Backup Versioning: Keep track of file changes and restore previous versions when needed. Each file can retain up to 32 historical versions.

Smart and Efficient Sync Strategy: Powered by TerraSync's dynamic sync technology, the client monitors folder changes in real time and intelligently compares them with the cloud version—delivering millisecond-level automatic syncing for new or modified files.

Direct Mount for Data Drives

Unlike traditional NAS systems that require hard drives to be partitioned and formatted before installation—forcing users to erase existing data—the TOS 6 system introduces Direct Mount for Data Drives, a groundbreaking feature that simplifies storage expansion.

With this capability, users can directly hot-swap a pre-used hard drive (with existing data) into their TNAS device and immediately access its contents over the network—no reformatting, no data loss. Whether migrating data, expanding storage, or repurposing old drives, this feature delivers a seamless and efficient storage solution.

This innovative technology provides users with a more convenient and high-performance approach to data management.

Seamless Remote Access

Though your NAS data may be oceans away, it's always at your fingertips—access your files anytime, anywhere, with complete freedom.

Powered by the TNAS.online cloud platform and its globally distributed multi-node network, TerraMaster ensures stable and reliable data transmission. No complex setup is required—



connect to and access your NAS effortlessly, no matter the network environment.

Home Data Storage Center

The TerraMaster F4-425 is a dedicated data storage and backup solution designed for households. Supporting hard drives up to 30TB each, it delivers a maximum total capacity of 120TB—enough to store:

- 30 million high-resolution photos
- 18 million work documents
- 40,000 HD movies
- 4 million lossless music tracks

Consolidate and back up data scattered across your Windows PCs, Mac computers, smartphones, external drives, and cloud storage into your TNAS for centralized management. This helps protect against data loss caused by hardware failure, ransomware attacks, or accidental deletion.

Binding Time into Albums

This is a collection of memory albums that preserve life's most precious moments.

- Children's Album

Cherishes every milestone of your child's growth, capturing their innocent laughter and magical firsts.

- Parents' Album

Freezes those youthful years of the couple, documenting every tender moment of building a family together.

- Grandparents' Album

Preserves grandpa's carefully nurtured flowers and grandma's elegant dance moves, eternalizing the beauty of their golden years.

- Travel Album

Backup breathtaking mountain vistas and ocean horizons from your journeys, creating visual souvenirs to relive anytime.

- Family Album

Enables instant sharing of every warm reunion, allowing the whole family to revisit happy moments through its pages.

Together, these carefully curated albums weave a timeless chronicle of your family's story.

Individual Accounts for Every Family Member

The F4-425 supports over 50 independent user accounts, enabling every family member to enjoy personalized storage on a single device. Each account features isolated data storage to safeguard privacy, while a shared public space enables seamless file sharing—striking the ideal balance between security and collaboration.

Build Your Home Multimedia Hub

The F4-425 delivers robust 4K video decoding with UPnP/DLNA protocol support. Combined with TerraMaster's dedicated "Multimedia Server" app or third-party media servers (Emby, Plex, etc.), it can stream video content to diverse multimedia devices—smartphones, tablets, Roku, Apple TV, Google Chromecast, Amazon Fire TV, and smart TVs—delivering a smooth and enjoyable viewing experience anytime, anywhere.

Media Download Solutions

Powered by globally popular download tools including Aria2, qBittorrent, and Transmission—trusted by hundreds of millions worldwide—the F4-425 delivers blazing-fast download speeds and efficient file transfer management for all your media content.

User-Friendly NAS Operating System

The F4-425 comes with TerraMaster's 6th-generation NAS operating system (TOS 6),

available completely free of charge. TOS is a web-based OS specifically designed for TerraMaster NAS devices, allowing all configurations to be done through an intuitive browser interface—no command-line knowledge required.

TOS 6 introduces over 40 brand-new features and brings improvements to more than 370+ detail enhancements, delivering a completely redesigned user experience from the inside out. Enhanced security protection mechanisms provide stronger data storage assurance, while optimized system performance delivers more agile task processing – offering TNAS users an unparalleled upgrade experience.

Seamless Cloud Drive Integration

With TerraMaster CloudSync, effortlessly connect your cloud storage to NAS for seamless synchronization and sharing. CloudSync combines support for multiple mainstream cloud services—including Google Drive, OneDrive, Amazon S3, Dropbox, Baidu Cloud, and Alibaba Cloud. Supports multiple sync strategies, data encryption, scheduled tasks, idle-time syncing, speed and bandwidth limits, and sync history tracking.

Cloud Drive Mounting

This feature allows users to mount public cloud storage directories directly to local TNAS directories. With it, there's no need to install cloud drive clients or log in to cloud servers—users can read and write cloud data simply by accessing local TNAS directories.

Additionally, these mounted directories can be mapped as network drives on a computer, enabling direct access to cloud storage through the familiar file explorer interface, making cloud services more convenient and accessible than ever.

Cross-Platform File Services

Supports SMB, NFS, SFTP/FTP, AFP, iSCSI, WebDAV; and features comprehensive permission

management of users, user groups, and folder, meeting across-platform file services in various network environments.

Rich Multimedia Applications

TerraMaster App Center provides a variety of free download tools including Aria2, qBittorrent, and Transmission for high-speed document transfers and media downloads. It also offers multiple multimedia applications like Multimedia Server, Plex, Emby, Terra Photos, and iTunes Server, making it easier to manage, share, and play your movies, photos, and music at home.

Video Surveillance Management

TerraMaster's proprietary Surveillance Manager enables you to create a complete video surveillance system by connecting multiple ONVIF-compliant IP cameras to your TNAS. This integrated solution provides centralized camera management, live viewing, historical playback, and automatic storage of all recordings to designated TNAS locations - all through an intuitive unified interface.

Docker Unleashes More Possibilities

With the professional virtualization application VirtualBox, users gain enhanced flexibility to run multiple virtual machines simultaneously on their NAS, meeting diverse virtualization needs. When combined with Docker Compose and Portainer, the extensive Docker ecosystem opens up even more innovative capabilities, delivering a richer virtualization experience.

Enterprise-Grade Security Protection

Amid increasingly rampant cyber threats, network device security now confronts unprecedented challenges. TOS delivers multi-layered defense mechanisms to safeguard critical data, significantly reducing risks from hackers and ransomware attacks.

System-wide PAM authentication enables flexible, configurable security policies.

Firewall and whitelist rules restrict access by IP, subnet, and port.

Data transmission is secured with 256-bit encryption and TLS.

OTP two-factor authentication adds mobile verification for login.

IP blocking automatically locks out addresses after multiple failed login attempts.

DoS protection keeps your TNAS stable during attacks.

Certificate services ensure device authentication and encrypted access.

Security and Privacy Control (SPC) blocks unauthorized apps from accessing network and storage.

Secure Isolation Mode disables internet access to prevent attacks and unauthorized software, creating a safer environment.

Multiple Solutions to Safeguard Your Data Security

TRAIID Elastic Array—Offers flexible array configuration, seamless online migration, capacity expansion, and redundancy to maximize disk space utilization.

TFSS Filesystem Snapshot—Provides one-click global storage snapshots and instant recovery, effectively guarding against ransomware attacks.

TFM Backup—Enables local and remote folder mirroring with differential backup capabilities, optimizing storage efficiency.

HyperLock-WORM—Ensures tamper-proof protection with a retention period of up to 70 years.

Snapshots—Supports file and iSCSI LUN snapshots & recovery, along with remote replication.

Flexible & Secure Storage Solutions

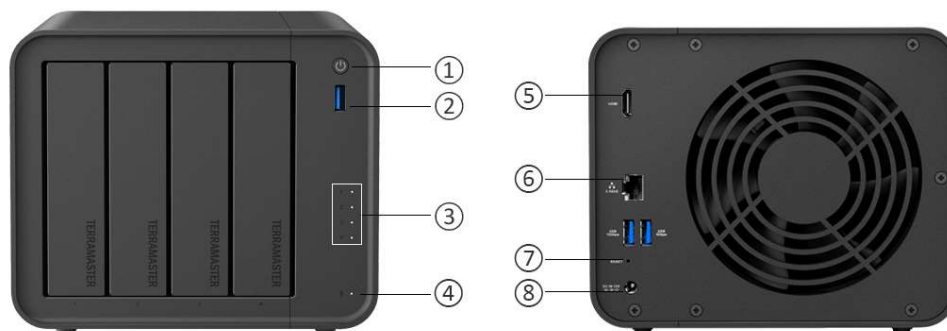


In addition to supporting standard RAID types (Single, RAID 0, and RAID 1), TerraMaster offers its proprietary TRAIID/TRAIID+ elastic array technology, enabling online capacity expansion, live migration, and hot-spare disk configuration for enhanced flexibility. When a TerraMaster USB DAS disk array is connected to a NAS, external drives can also be used to create storage pools and volumes, allowing for seamless storage expansion.

Tool-Free Hard Drive Swapping Made Easy

The F4-425 features a tool-less drive tray design, allowing effortless hard drive installation and removal without any tools. Additionally, it incorporates TerraMaster's innovative Push-lock mechanism—automatically locking the drive in place upon insertion to prevent disconnection or accidental falls. With this design, swapping a hard drive takes less than 10 seconds, providing exceptional convenience for users who frequently need to replace drives or transfer data.

Panel Illustration:



SN	Item	Description
①	Power button	Used to turn the device on/off
②	USB host	Use to connect USB storage device or USB wireless adaptor
③	Hard drive indicator	Steady on: Normal operation status Blinking: Reading/writing data Off: No hard drive detected
④	Power indicator	Steady on: Power on Off: Power off

Rear Cover Illustration:

SN	Item	Description
⑤	HDMI interface	For displaying the software codes or commands, not for video playing.
⑥	Network interface	2500M/1000M/100M bps network interface
⑦	Reset Button	When the device is powered off, use a pin to continuously press and hold the RESET button on the back of the product. While keeping the RESET button pressed, briefly press the power button to start the device. Wait for approximately 30 seconds until you hear three consecutive "beep beep beep" sounds, then release the pin. Next, use the TNAS PC client software to perform a new search for the TNAS device and follow the client's instructions to restart the TOS system initialization process.
⑧	Power interface	DC 12V power input NOTE: Do not use a third-party power adaptor.

Specifications:

Processor	
Processor Model	Intel® N5095
Processor Architecture	X.86 64-bit
Processor Frequency	Quad Core 2.0 GHz (Max burst up to 2.9 GHz)
CPU Single-Core Score	/
Hardware Encryption Engine	√
Hardware Transcoding Engine	H.264, H.265, MPEG-4, VC-1; maximum resolution: 4K (4096 x 2160); maximum frame rate per second (FPS): 60
Memory	
System Memory	4 GB DDR4 non-ECC SODIMM
Pre-installed Memory module	4 GB DDR4 non-ECC SODIMM (1x 4GB)
Total Memory Slot Number	1 (DDR4 SODIMM)
Maximum Supported Memory	16GB DDR4 non-ECC SODIMM
Note	TerraMaster reserves the right to replace memory modules with the same or higher frequency based on supplier's product life cycle status. Rest assured that the compatibility and stability have been strictly verified with the same benchmark to ensure identical performance.
Storage	
Disk Slot Number	4
Compatible Drive types	3.5" SATA HDD
	2.5" SATA HDD
	2.5" SATA SSD
Maximum Internal Raw Storage Capacity	120 TB (30 TB x2) (Capacity may vary by RAID types)
Drive Hot Swap	√
Note	<p>. Hard drive vendors will release their latest models of hard drives, and Maximum internal raw storage capacity may be adjusted accordingly.</p> <p>. The maximum single volume size is not directly related to the maximum raw capacity.</p>
File System	
Internal Drive	Btrfs, EXT4
External Drive	EXT3, EXT4, NTFS, FAT32, HFS+, BTRFS
External Ports	
RJ-45 1GbE Network Jack	/
RJ-45 2.5GbE Network Jack	1
RJ-45 10GbE Network Jack	/
SFP+ 10GbE Network Jack	/
USB3.2 Host Port	2(10Gbps)
USB3.0 Host Port	1(5Gbps)
COM	/

HDMI	1
VGA	/
PCIe Slots	/
M.2 2280 NVMe Slot	/
Appearance	
Size (H*W*D)	222 x 179 x 154 mm
Packaging Size (H*W*D)	300 x 275 x 186 mm
Weight	Net Weight: 2.1 Kg, Gross Weight: 3.2 Kg
Others	
System Fan	120 x 120 x 25mm 1PCS
Fan Mode	Smart, High speed, Middle speed, Low speed
Noise Level	21.0 dB(A) (Using 4 SATA HDDs/SSDs in standby mode; Test environment noise: 17.3dB(A); Test distance: 1m)
Power Supply	90W
Redundancy Power Supply	/
AC Input Voltage	100V - 240V AC
Current Frequency	50/60 Hz, Single frequency
Power Consumption	33.0 W (Fully loaded Seagate 4TB ST4000VN008 hard drive(s) in read/write state)
	13.0 W (Fully loaded Seagate 4TB ST4000VN008 hard drive(s) in hibernation)
Limited warranty	2 years
Certificate	FCC, CE, CCC, KC
Environment	RoHS, WEEE
Temperature	
Working Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-20°C ~ 60°C (-5°F ~ 140°F)
Relative Humidity	5% ~ 95% RH
Package Contents	
	Host unit (x1)
	Power cord (x1)
	Power Adapter(x1)
	RJ-45 network cable (x1)
	Quick Installation Guide (x1)
	Limited Warranty Note(x1)
	Screws (a few)

TOS Features	
OS Supported	
Supported Client OS	Windows OS, Mac OS, Linux OS
Supported Web Browsers	Google Chrome 97.0.xxxx, Mozilla Firefox 9.3, Apple Safari 12.1; Microsoft Edge 99.0.xx or later version.
Supported mobile OS	iOS14.0, Android 10.0 or later version
Storage Management	
Supported RAID Types	TRAIID, Single, JBOD, RAID 0, RAID 1, RAID5, RAID 6, RAID 10
Maximum Internal Volume Number	256
Maximum iSCSI Target	128
Maximum iSCSI LUN	256
Volume Expansion with Larger HDDs	TRAIID, TRAIID+, RAID 5, RAID 6, RAID 10
Volume Expansion by Adding a HDD	/
RAID Migration	√
SSD Cache	√
Hot Spare	√
SSD TRIM	√
Hard Drive S.M.A.R.T.	√
Seagate IHM	√
NVRAM write cache (BBU-protected)	/
Shared Folder Snapshot	√
LUN Snapshot	/
File Services	
File Protocol	SMB/AFP/NFS/FTP/SFTP/WebDAV
Maximum Concurrent SMB/AFP/FTP/SFTP Connections	512
Windows Access Control List (ACL) Integration	√
NFS Kerberos Authentication	√
Account & Shared Folder	
Maximum local user's account number	2048
Maximum local group number	512
Maximum shared folders number	512
Maximum shared folders syncing tasks	8
Backup	
Rsync Backup	√

Duple Backup	√
Centralized Backup	√
Snapshot	√
USB Backup	√
Cloud Sync	√
Time Machine Backup	√
File System Snapshot	√
TFM Backup	√
Networking	
TCP/IP	IPv4/IPv6
Protocols	CIFS/SMB, NFS, FTP, SFTP, HTTPS, SSH, iSCSI, SNMP
Link Aggregation	√
DLNA Compliance	√
VPN Client	√
VPN Server	√
Proxy Client	√
Proxy Server	/
UPnP/Bonjour Discovery	√
TNAS.online Remote Access	√
DDNS	√
Access Right Management	
Batch users creation	/
Import/Export users	√
User Quota Management	√
Local user access control for CIFS/SAMBA and FTP	√
Domain Authentication	
AD Domain	√
LDAP Client	√
LDAP Server	/
Security	
Firewall Protection	√
Account Auto-block Protection	√
AES Volume and Shared Folder Encryption	√
Importable SSL certificate	√
Instant Alert via email, Desktop Notification, Beep	√
RSA 2048 Encryption (TOS 5.0)	√
PAM (Pluggable Authentication Modules)	√
OTP Authentication (TOS 5.0)	√
HyperLock File System (TOS 5.0)	√

Power Management	
Power Resume	√
Scheduled Power On/Off	√
Wake up On LAN (WOL)	√
UPS Supported	√
Administration	
Multi-window, Multi-task System Management	√
Custom Desktop	√
Control Panel	√
Resource Monitor	√
Syslog	√
OS UI Language	English, German, French, Spanish, Italian, Magyar, Chinese, Japanese, Korean, Turkish, Portuguese, Russian
Applications	
Application Center	√
iSCSI Target	√
Terra Photos	√
TerraSync	√
Duple Backup	√
CloudSync	√
Centralized Backup	√
USB Backup	√
VPN Server	√
Transmission	√
qBittorrent	√
Aria 2	√
Terra Search	√
Surveillance Manager	√
Web Server	√
Clam Antivirus	√
EMBY	√
Multi Media Server	√
Plex Media Server	√
Docker Manager	√
Snapshot	√



TerraMaster System Limited.

518, Building 8, 1970 Technology Park, Minkang Community, Minzhi Street, Longhua District, Shenzhen, China.

Website: www.terra-master.com

Email: sales@terra-master.com

Tel: +86 755 81798555

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