ATTO ThunderLink® Thunderbolt™5 Adapter Installation and Operation Manual

ATTO ThunderLink FC 5642

80-Gigabit Thunderbolt 5 to 64 Gigabit Fibre Channel Adapter

ATTO ThunderLink NS 5102

80-Gigabit Thunderbolt 5 to 100 Gigabit Ethernet Adapter

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The Power Behind the Storage

Table of Contents

1 ThunderLink Adapter Installation

This manual gives you information for installing and configuring your ThunderLink Adapter.

Verifying packaging contents

- Note the serial number of your ThunderLink unit: _____
- AC adapter and power cord
- Getting Started Guide

> **Note** *ThunderLink Fibre Channel Adapters ship with short-wave SFPs. Gen 6 & 7 Fibre Channel technology necessitates that all optics must be a fully certified ATTO -branded SFP*

> ⚠️ **CAUTION** *ThunderLink Adapters contain components that are sensitive to electrostatic discharge (ESD). ESD can cause damage to these components. Do not attempt to open the ThunderLink Adapter enclosure as it will void your warranty. Always back up your system data before changing or installing any hardware.*

> **Note** *ATTO ThunderLink Adapters feature a small slot on the right side of the Adapter. This is to allow for additional security via Kensington lock.*

Installing the ThunderLink Adapter

> ⚠️ **CAUTION** *For Windows PC: the Thunderbolt certified Adapter driver must be installed before plugging in the Adapter for it to function properly. Please follow the Windows instructions under Installing Drivers before proceeding.*

1. Ensure you have the following prerequisites:

   - Thunderbolt technology-enabled host.
   - A Thunderbolt cable.
   - A storage Adapter (Fibre Channel, or Ethernet) cable.
   - Compatible storage (Fibre Channel, or Ethernet).

2. Connect the AC adapter to the ThunderLink and the power cord to a power point.
3. Connect the storage to the ThunderLink to your storage node of switch via the storage Adapter cables.
4. Connect your ThunderLink to your laptop or other computing Adapter via Thunderbolt cable.

Installing Drivers

macOS®

> **Note** *At this time users cannot see more than 256 LUNs in macOS*

Downloading drivers from the ATTO website

1. Power on your system and log in as a user with proper administrative privileges.
2. Go to www.atto.com.
3. On the main menu, click **Support,** and choose **Software Downloads**.
4. Under the **ATTO Product** tab, choose **ThunderLink Thunderbolt Adapters**.
5. Under the **Product Family** tab, choose select your model.
6. Under the **Operating System** tab, select macOS.
7. Find the entry for the latest driver, and select download.

8. A download window appears. Follow the instructions for downloading the driver.
9. Open the .dmg file, and run the .pkg installer file.

Windows®

Downloading drivers from the ATTO website

10. Power on your system and log in as a user with proper administrative privileges..
11. Go to www.atto.com.
12. On the main menu, click **Support,** and choose **Software Downloads**.
13. Under the **ATTO Product** tab, choose **ThunderLink Thunderbolt Adapters**.
14. Under the **Product Family** tab, choose select your model.
15. Under the **Operating System** tab, select your Windows Operating System.
16. Find the entry for the latest driver, and select download.

17. A download window appears. Follow the instructions for downloading the driver.

Linux

Note *Newer PCs may ship with UEFI firmware with Secure Boot enabled. With Secure Boot the operating system boot loaders, Linux kernel, and all kernel modules must be signed with a private key and authenticated with a corresponding public key.*

When trying to load an unsigned ATTO driver on a secure boot system, you will see the following error: **modprobe: ERROR: could not insert '<driver-name>': Required key not available** Refer to the Linux driver read me file (readme.html) contained in the driver bundle for instructions on signing and authenticating your ATTO Linux drivers.

1. Power on your system and log in as the root or a user with proper administrative privileges.

2. Go to www.atto.com.
3. On the main menu, click **Support,** and choose **Software Downloads**.
4. Under the **ATTO Product** tab, choose **ThunderLink Thunderbolt Adapters**.
5. Under the **Product Family** tab, choose select your model.
6. Under the **Operating System** tab, select Linux.
7. Find the entry for the latest driver, and select download.
8. Select a download desitnation to download the ATTO driver .tgz file.
9. Open a terminal window and change directory to the location of the ATTO driver .tgz file.
10. Extract the file using the command **tar -xfz<filename.tgz>**
11. Change the directory created above and run the installer script **./insta**

Thunderbolt 5

Thunderbolt 5 extends the capabilities of Thunderbolt to 80Gb/s while utilizing USB-C connectors. Please note the following guidelines for best practice when using an ATTO Thunderbolt 5 Adapter.

1. Thunderbolt cables used with ATTO Thunderbolt Adapters must be Intel certified.
2. Active cables (1 and 2 meter) provide 80Gb/s bi-directional connectivity, with up to 120Gb/s uni-directional support with bandwidth boost
3. Thunderbolt 5 utilizes a USB-C connector and only platforms designated by the Intel Thunderbolt logo are compatible with ATTO Thunderbolt adapters.
4. Minimum OS requirements for Windows/macOS
   - Windows

- PC with Thunderbolt 5 – Windows 11
- PC with Thunderbolt 4 – Windows 10 or 11
- PC with Thunderbolt 3 – Not supported
macOS:
   - Mac with Thunderbolt 4/5 – macOS 14.4 or newer

- Mac with Thunderbolt 3 – macOS 15.0 or newer

Note **Dedicated Host & Device ports**

This icon indicates the dedicated host port and should be used only for connecting to hosts.

This icon indicates the dedicated device port and should be used only for connecting devices

2 ATTO360 Storage & Networking editions

The ATTO360 Networking (Ethernet) & ATTO360 Storage (Fibre Channel/SAS) applications provide an effective mechanism to configure your ThunderLink Adapter. Features include:

- The names of ATTO Adapters installed in the host
- Information about the drivers and firmware controlling the Adapters, including version information

You may also use the ATTO360 to:

- Update the flash image when a new version is released by ATTO
- Modify the NVRAM settings
- Tuning profiles that optimize your ATTO product
- Monitoring/Diagnostics to help troubleshoot and eliminate bottlenecks
- Revert to default factory settings

Download and Install ATTO360

Visit the ATTO website to download the latest version of ATTO360 to manage your ThunderLink device.

TLFC-5642 Fibre Channel users should download ATTO360 Storage

TLNS-5102 Ethernet users should download ATTO360 Networking here; https://www.atto.com/products/software/atto360-networking-software/

Standards and Compliances

The equipment described in this manual generates and uses radio frequency energy. If this equipment is not used in strict accordance with the manufacturer's instruction, it can and may cause interference with radio and television reception.

FCC

Class B

This equipment has been tested and found to comply with the limits for a Class B digital Adapter, pursuant to part 15 of the FCC Rules.

ICES-003

This Class B digital apparatus complies with Canadian ICES-003.

*Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

UKCA

This product complies with BS EN55032, BS EN55035.

European Union

Marking by the symbol ![CE] indicates compliance of this ATTO Adapter to the EMC Directive and the Low

Voltage Directive of the European Union.

VCCI-CISPR 32

VCCI Class B Statement

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

This is a Class B product based on the standard of the VCCI Council. If this is used near a radio or

television receiver, it may cause radio interference. Install and use equipment according to the

instruction manual.

AZ/NZ CISPR 32

This product complies with AZ/NZ CISPR32.

TUV

The product has been certified and bears the Mark, as applicable, of the EMC and Product Safety authorities as indicated below:

Safety CB IEN62368-1 (all national deviations)

Emissions/Immunity: EN55032, EN55035, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11.

RoHS

ATTO ThunderLink Adapters comply with Directive 2011/65/EU, (EU) 2015/863 on the Restriction of the Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS).

Compliance with ICES-003

This Class B digital apparatus complies with Canadian ICES-003.

*Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

Warranty Information

Manufacturer limited warranty

ATTO Technology, Inc. ("ATTO") warrants to the original purchaser of this product ("Product") that the Product is free from defects in material and workmanship for the term described for this specific Product on ATTO's website (**www.atto.com**). ATTO's liability shall be limited to replacing or repairing any defective product at ATTO's option. There is no charge for parts or labor if ATTO determines that this product is defective.

PRODUCTS WHICH HAVE BEEN SUBJECT TO ABUSE, MISUSE, ALTERATION, NEGLECT, OR THOSE PRODUCTS THAT HAVE BEEN SERVICED, REPAIRED OR INSTALLED BY UNAUTHORIZED PERSONNEL WILL NOT BE COVERED UNDER THIS WARRANTY. DAMAGE RESULTING FROM INCORRECT CONNECTION OR AN INAPPROPRIATE APPLICATION OF THIS PRODUCT SHALL NOT BE THE RESPONSIBILITY OF ATTO. LIABILITY UNDER THIS LIMITED WARRANTY IS LIMITED TO ATTO PRODUCT(S). DAMAGE TO OTHER EQUIPMENT CONNECTED TO ATTO PRODUCT(S) IS THE CUSTOMER'S RESPONSIBILITY. THIS LIMITED WARRANTY IS MADE IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. ATTO DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT IMPLIED WARRANTIES CANNOT BE EXCLUDED, SUCH IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD APPLICABLE TO THE PRODUCT. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, THE ABOVE MAY NOT BE APPLICABLE. ATTO'S RESPONSIBILITY TO REPAIR OR REPLACE A DEFECTIVE PRODUCT IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR BREACH OF THIS WARRANTY.

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