



ATTO Technology Inc.'s Thunderbolt™ to 10 Gigabit Ethernet to devices provide maximum throughput for high bandwidth network connectivity for demanding IT and media and entertainment applications.

## TECHNICAL FEATURES

- Dual Thunderbolt 3 (40Gb/s USB-C) connectors
- Dual 10GbE (SFP+) ports (modules included)
- Supports 4K video file transfer and display simultaneously with dual 40Gb/s Thunderbolt 3
- Daisy chain up to 5 additional Thunderbolt technology-enabled devices
- Backwards compatible with 20Gb/s and 10Gb/s Thunderbolt devices
- Exclusive Advanced Data Streaming (ADS™) Technology
- Minimized interrupts for low latency
- TCP, UDP and IPv4 checksum offloading and Tx/TCP segmentation offloading
- Industry's lowest power consumption
- Support for downstream USB 3.1 and 2.0 devices
- 3-year standard product warranty
- RoHS Compliant

# ATTO ThunderLink™ NS 3102

THUNDERBOLT™ 3 TO 10Gb ETHERNET

## INDUSTRY PROVEN TECHNOLOGY

ATTO Technology Inc. has nearly 30 years of experience developing first-to-market high performance and reliable storage connectivity solutions for customers. ATTO ThunderLink™ Ethernet products now provide creative professionals using Thunderbolt™ enabled hosts, cost effective access to storage not previously available using FireWire or USB. The integrated family of ThunderLink products boasts an extensive list of customer design wins and certifications with respected industry partners. Now, the time tested combination of ATTO and 10GbE is being integrated with the latest in cutting edge high performance Thunderbolt connectivity.

## FLEXIBLE CONNECTIVITY SOLUTIONS

ATTO 10GbE devices provide the most flexible and scalable connectivity for today's high bandwidth content creation environments. ThunderLink 10GbE devices offer driver support for Windows® 7 and later, providing a single connectivity solution for customers with heterogeneous operating system environments. Growing adoption of 10 Gigabit Ethernet combined with increased bandwidth of Thunderbolt 3 delivers much-needed performance benefits to bandwidth intensive applications.

## PERFORMANCE ENGINEERED

When faced with the challenge of architecting solutions that allow guaranteed delivery and easy deployment into your workflow ATTO ThunderLink's provide a purpose built solution. With 10Gb/s data transfer rates and multiple offloads (TCP, IPv4, UDP), ATTO Ethernet Thunderbolt devices are the premier connectivity choice for bandwidth-intensive applications such as data back-up and restoration, IP content delivery, medical imaging, and video rendering. With multi-core processors driving the need for 10GbE, ThunderLink 10GbE delivers superior throughput to meet that need.

## ADVANCED MANAGEMENT TOOLS

ThunderLink 10GbE devices provide a common foundation for both local and storage networks. The ThunderLink NS 3102 leverages standard OS management and monitoring tools to dramatically reduce the cost and complexity of a data center's administration and infrastructure.

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## APPLICATIONS

ThunderLink 10GbE Device solutions combine the unparalleled performance of 10 Gigabit Ethernet and the lossless benefits of Enhanced Ethernet, to meet the performance and economic needs of today's growing data centers. The ThunderLink NS 3102 is ideal for applications that require low latency, high bandwidth data transfers, such as data back-up and restoration, video-on-demand and video streaming, medical imaging, and clustered databases.

## GENERAL FEATURES

- Data rate per port: 10GbE
- Tx/TCP segmentation offload (Large Send Offload—LSO)
- Low latency interrupts
- PCI-SIG SR-IOV support
- Interrupt levels MSI, MSI-X
- Plug and play specification support
- Advanced Packet Filtering
- VLAN support with tag filtering, insertion and stripping

## ADVANCED SOFTWARE FEATURES

- Adaptive load balancing
- Teaming support
- PCI Hot Plug/Active peripheral interconnect

## MANAGEMENT TOOLS

- Easy system monitoring with Simple Network Management Protocol (SNMP) and Remote Network Monitoring (RMON) Statistic Counters
- Watchdog Timer for chip/driver status monitoring

## EXTERNAL CONNECTIVITY

- 10Gb/s, 1Gb/s SFP+ via Quad to Serial Small Form Factor Pluggable Adapter
- 2 LED indicator per port

## THUNDERBOLT CABLING

- 0.5m – 40Gb/s Performance (40Gb/s cables are designated with a “3” marking)
- 1m – 20Gb/s Performance
- 2m – 20Gb/s Performance

## NETWORK STANDARDS

- IEEE802.3ae: 10GBASE-SR, 10GBASE-LR
- IEEE 802.3az (Energy Efficient Ethernet)
- IEEE 802.1p (Priority Encoding)
- IEEE 802.1q (VLAN tagging)
- IEEE 802.3ad (Link aggregation)
- IEEE 802.1qbb (Priority flow control)
- IEEE 802.1qaz (Enhanced Transmission)
- IEEE 8023.AD (Load-balancing, failover)
- 802.1 Qaz: Enhanced Transmission

## OPERATING SYSTEM SUPPORT

- Windows® 7 and later
- Planned support for Mac® platforms

## POWER ADAPTER

- 100-240VAC, 50-60Hz, 0.6A Max
- 12VDC

## COMPLIANCE

- FCC Part 15 Subpart B, Class A
- EN55032, Class A/EN55024
- EN60950-1
- EN60825-1
- EN60825-2
- cTUVus
- EU RoHS (2011/65/EU)
- TAA Compliant (Country of Origin: USA)

## OPERATING TEMPERATURE

### HARDWARE ENVIRONMENT

- Temperature: 0-40° C
- Humidity: 10- 90% non-condensing

### STORAGE ENVIRONMENT

- Temperature: -40° C to 70° C
- Humidity: 5- 95% non-condensing

## DIMENSIONS

- 8.66”(D) x 4.07”(W) x 1.20”(H)

## WARRANTY

- 3 Years

## ORDERING INFORMATION

- Phone: 716-691-1999
- ThunderLink NS 3102: TLNS-3102-D00
- ThunderLink NS 3102: TLNS-3102-DE0 (UK/EMEA)

## COMPLEMENTARY PRODUCTS

- ATTO Celerity™ Fibre Channel HBAs
- ATTO ExpressSAS™ HBAs and RAID Adapters
- ATTO FastFrame™ NICs
- ATTO FibreBridge™ Fibre Channel Storage Controllers
- ATTO Thunderbolt devices
- ATTO FibreConnect™ Fibre Channel Switches
- ATTO premium cables



ATTO ThunderLink™ NS 3102	
<b>Model Number</b>	TLNS-3102-D00 (US) TLNS-3102-DE0 (UK/EMEA)
<b>Input Connectors</b>	(2) 40Gb/s Thunderbolt™ USB-C
<b>Output Connectors</b>	(2) 10GbE
<b>Connector Type</b>	SFP+
<b>Form Factor</b>	Desktop
<b>Warranty</b>	3 Year