ATTO ThunderLink™ NS 2101
Thunderbolt™ 2 to 10GbE

ATTO's 10 Gigabit Ethernet to Thunderbolt Desklink Devices provide maximum throughput for high bandwidth network connectivity for demanding IT and media and entertainment applications.

Technical Features

- Single 10GbE port

- Supports 4K video file transfer and display simultaneously with dual 20Gb/s Thunderbolt 2

- Supports ATTO Xtend SAN iSCSI initiator

- Daisy chain up to 5 additional Thunderbolt technology-enabled devices

- Backwards compatible with 10Gb/s Thunderbolt

- 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

- 3-year standard product warranty

- RoHS Compliant

Industry Proven Technology

ATTO has over 25 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.

Flexible Connectivity Solutions

ATTO 10GbE Desklink Devices provide the most flexible and scalable connectivity for today's high bandwidth content creation environments. By leveraging support for software iSCSI initiators, including ATTO Xtend SAN, ThunderLink 10GbE Desklink Devices can support both local and storage area networks. ThunderLink 10GbE Desklink Devices offer driver support for Mac OS® X 10.9 and later and Windows® 7 and later (Linux® when Thunderbolt enabled platforms become available), providing a single connectivity solution for customers with heterogeneous operating system environments.

Performance Engineered

With 10Gb/s data transfer rates and multiple offloads (TCP, IPv4, UDP), Ethernet Desklink 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 higher bandwidth, ThunderLink 10GbE Desklink Devices deliver superior throughput to meet that need.

Advanced Management Tools

ThunderLink 10GbE Desklink Devices provide a common foundation for both Ethernet and storage networks. The ThunderLink NS 2101 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 Desklink solutions combine the unparalleled performance of 10 Gigabit Ethernet, the lossless benefits of Enhanced Ethernet and robustness of software iSCSI initiators, to meet the performance and economic needs of today's growing data centers. The ThunderLink NS 2101 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
- TCP, UDP, IPv4, and IPv6 checksum offloading
- Tx/TCP segmentation offload (Large Send Offload—LSO)
- Low latency interrupts
- Interrupt Coalescing/Moderation
- Interrupt levels INTA, MSI, MSI-X
- Data Center Bridging (DCB) support
  - Priority-Based Flow Control 802.1Qbb rev.0
  - Enhanced Transmission Selection 802.1Qaz rev.0 protocol
- Header splits and Replication in Receive
- Receive Side Scaling for multiple Rx queues
- Direct Cache Access (DCA) eliminates cache misses and reduces CPU load
- IEEE 802.3 2005 flow control support
- 802.1p—Priority Encoding
- 802.1q—VLAN Tagging
- 802.3ad—Link Aggregation
- Override MAC Address
- VLAN support with tag insertion and stripping
- Plug and play specification support
- Advanced Packet Filtering

Advanced Software Features

- Adaptive load balancing
- IEEE 802.1Q VLANs

User Benefits

- Multiple offloads for lower processor usage and increased throughput
- Reduced power, cooling and cabling costs
- Low total cost of ownership (TCO) with high bandwidth over a single link

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

- Single 10G/1G one LC fiber-optic connector (short wave)
- Supports 10 G SFP + Cu for Direct Attach
- 2 LED indicators
- LED Indicators: LINK (solid), ACTIVITY (blinking), LINK SPEED (ON = 10Gb, OFF = 1Gb)

Network Standards

- IEE802.3ae: 10GBASE-SR, 10GBASE-LR
- SFF-8431: 10GSFP+Cu (a.k.a Direct Attach)
- DCBX Protocol

Operating System Support

- Mac OS® X 10.9 and later
- Windows® 7 and later

Power Adapter

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

Compliance

- FCC Part 15 Subpart B, Class B
- EN55032, Class B/EN55024
- EN60825-1
- EN60825-2
- EN60950-1
- $_C$TUV$_{US}$
- 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) × 1.20"(H)

Warranty

- 3 Years

ThunderLink	NS 2101
Model Number	TLNS-2101-D00 TLNS-2101-DE0
Input Connectors	(2) 20Gb/s Thunderbolt™
Output Connectors	(1) 10GbE
Connector Type	(1) LC SFP+
Form Factor	Desktop
Warranty	3 Year