



Celerity FC-164P

ATTO Celerity™ 16Gb Gen 6 Fibre Channel host bus adapters provide the highest performing storage area network storage connectivity for physical and virtual infrastructures.

### Technical Features

- Single-, dual- and quad-channel configurations (SFPs included for single and dual)
- 1600 MB/s per channel throughput
- Driver support for Windows®, Linux®, macOS®, illumos, VMware® and more
- ATTO Advanced Data Streaming (ADS™) Technology
- ATTO ConfigTool™ for customized performance settings
- Proven interoperable with leading storage hardware and software vendors
- Support for N\_Port ID Virtualization and Virtual Fabric
- Target mode (Developer, SCST, LIO and more) support
- Three-year standard product warranty
- Low power consumption

### MultiPath Director™

- Multiple paths to storage for improved data integrity and reliability
- High-performance shared storage for workgroups
- Load-balancing and failover in heterogeneous OS environments
- Available through authorized OEMs

### About ATTO

For over 30 years, ATTO Technology, has been a global leader across the IT and media & entertainment markets, specializing in network and storage connectivity and infrastructure solutions for the most data-intensive computing environments. ATTO works with partners to deliver end-to-end solutions to better store, manage and deliver data.

## ATTO Celerity™ 16Gb Fibre Channel HBAs FC-164P, FC-162P, FC-161P

### Industry Proven Technology

ATTO has over 30 years of experience developing and delivering reliable first-to-market Fibre Channel storage connectivity solutions to customers. ATTO Celerity™ Fibre Channel connectivity solutions are consistently the highest performing host bus adapters (HBAs) for server virtualization deployments, faster backups and scalable cloud initiatives. Offering performance to match new multi-core processors and faster PCIe 3.0 server host bus architectures, the integrated family of Celerity 16Gb Gen 6 Fibre Channel HBAs boast an extensive list of customer design wins and certifications with respected industry partners.

### Flexible Connectivity

With single-, dual- and quad-channel configurations, Celerity 16Gb Gen 6 Fibre Channel HBAs are an ideal solution for users looking to achieve the highest I/O and data throughput for advanced video and enterprise-class IT applications. Celerity 16Gb Gen 6 HBAs offer driver support for Windows®, Linux®, macOS®, illumos, VMware® and more, providing a single connectivity solution for customers with heterogeneous operating system environments.

### Performance Engineered

Celerity HBAs are designed to provide fast, redundant and highly available connectivity to Fibre Channel storage and are engineered to manage latency for real-time applications. ATTO Advanced Data Streaming (ADS™) Technology provides controlled acceleration of data to deliver the highest consistent performance and reliable data transfers. ATTO pays close attention to detail in board design and signal integrity to minimize transmission errors and data corruption. Specialized Fibre Channel drivers with support for multiple OS platforms and OEM-specific solutions, such as target mode and multipathing, make ATTO the premier choice for high-performance Fibre Channel storage area network (SAN) connectivity.

### Advanced Management Tools

Easy-to-use ATTO ConfigTool™ features an intuitive GUI that simplifies the installation, management and monitoring of the host bus adapter. With advanced troubleshooting and performance tuning capabilities, Celerity HBAs provide users with sophisticated diagnostics and the flexibility to control settings for specific applications.

## Applications

ATTO Celerity™ Fibre Channel HBAs deliver high-performance and reliable connectivity solutions for the most demanding storage environments, including physical and virtual datacenters, tape streaming and backup, rich content delivery and server clustering. Celerity HBAs enable users to achieve the ultimate in I/O performance for real-time and transactional applications.

## Advanced Data Streaming (ADS™)

Latency-management technology that controls the acceleration of data transfers to move large amounts of data faster and more efficiently.

## Key Features

- Auto Negotiation to 16Gb, 8Gb and 4Gb devices
- Supports point-to-point and direct fabric/switch attach
- ANSI Fibre Channel: FC-FS, FCP
- Flash ROM for easy field upgrades
- Fibre channel Class 3 Support
- Buffer Credits: 80 (161P, 162P) 40 (164P)
- Pluggable optical LC SFP+, SFF for 164P
- ATTO Branded SFPs must be used
- Initiator and target mode (OEM) support
- Supports FDMI and WMI
- Supports NPIV and Virtual Fabric
- Supports Thunderbolt™

## User Benefits

- Superior performance for enterprise applications
- Increased switch port availability
- Seamless integration into existing Fibre Channel SANs
- Extensive certification with SAN infrastructure components
- Support for virtualized server environments
- Quad port card maximizes usage of server slots

## Management Tools

- ATTO ConfigTool™
- ATTO vConfigTool™ with Latency Scout™

## Bus Specifications

- x8 PCI Express 3.0 host interface
- Supports PCI Express Base Spec 3.0
- Supports FC-PI-6
- Supports SFF-8431
- Supports PCI Express CEM Spec 3.0
- PCI Hot Plug spec 1.1

## External Connectivity

- Full height brackets for FC-162P, FC-161P
- Low profile bracket installed on FC-164P
- Single (1), Dual (2) pluggable 16Gb optical LC SFP+ modules included, SFF for 164P
- External LEDs for boot status and visual indication of the operating state

## Operating System Support

- Windows®
- Windows Server®
- Linux®
- illumos
- VMware®
- FreeBSD
- macOS®

## Agency Approvals

- UL, cUL, CSA: US and Canada
- TUV: Europe
- FCC class A: US
- ICES: Canada
- EMC Directives (CE Mark) Class A: Europe
- VCCI class A: Japan
- BSMI class A: Taiwan
- MSIP (Formerly KCC): Korea
- RCM: Australia

## Compliance

- RoHS (meet EU and China standards)
- TAA Compliant—Country of Origin USA

## Dimensions

- FC-164P
- Length 6.600", Height 2.708
- FC-162P, FC-161P
- Length 6.595", Height 2.709"

## Operating Temperature

### Hardware Environment

- Temperature: 0-55° C
- Humidity: 10 -90% non-condensing

### Storage Environment

- Temperature: -40°-70°C (-40°-157°F)
- Humidity: 5 -95% non-condensing

## Operating Power (Typical)

- FC-164P: 11.9W
- FC-162P: 10.3W
- FC-161P: 9.6W

## Warranty

- Three Year

ATTO Celerity	FC-161P	FC-162P	FC-164P
Ports	Single	Dual	Quad
Bus Characteristics	x8 PCIe 3.0	x8 PCIe 3.0	x8 PCIe 3.0
Form Factor	Low Profile	Low Profile	Low Profile
Max Transfer Rate	1600 MB/s	3200 MB/s	6400 MB/s
SKU	CTFC-161P-000	CTFC-162P-000	CTFC-164P-000

