

# Data Sheet

## FUJITSU PFC EP Emulex LPe31000 / LPe31002 Fibre Channel Adapters

Dual- and single-port 16 Gbit PCIe 3.0 Host Bus Adapters by Broadcom

Fibre Channel Host Bus Adapters (HBA) enable data exchange over large distances and extend your existing FUJITSU server systems by including communication interfaces using high-speed communication technology. All connections are redundant and hot-pluggable. The combination of hardware and software exemplifies the high-performance quality of communication. The number of system restarts is reduced thanks to optimized software and extended error check functions help improve the integrity of your company's information.

### PFC EP Emulex LPe31000 / LPe31002 Fibre Channel Adapters

The Emulex Gen 6 16 Gb Fibre Channel (FC) Host Bus Adapters (HBA) by Broadcom for PRIMERGY and PRIMEQUEST server systems are optimal Fibre Channel HBAs for virtualized, cloud and mission critical deployments. The PFC EP Emulex Gen 6 Fibre Channel HBAs LPe31000/31002 by Broadcom take performance to a new level with PCIe 3.0 support, data integrity capabilities and cloud scale reliability, and ease of use. Organizations looking to improve performance, protect against data corruption, and simplify operations of FC SANs in cloud or high performance environments can benefit from deploying the PFC EP LPe31000/31002.

The single and dual port FC HBAs feature the

Emulex bullet-proof driver stack built on a heritage reaching back to the first generation Fibre Channel adapters resulting in rock-solid reliability in 16Gb/s, 8Gb/s and 4Gb/s environments. With over 1.6 million IOPS on a single port, they are ideally suited for Fibre Channel connectivity to flash storage arrays.

Compared to the previous generation, Emulex Gen 6 HBAs deliver 2x greater bandwidth— 6,400MBps (2 ports 16G, full duplex), less than half the latency, and support an industry-leading 1.6 million IOPS on a single port, ensuring SLAs are met.



Main Features	Benefits
<ul style="list-style-type: none"> <li>Faster Flash. Better Virtualization. Lossless Networking</li> <li>Accelerate</li> <li>Protect</li> <li>Control</li> </ul>	<ul style="list-style-type: none"> <li>Emulex Gen 6 FC HBAs are designed to address the demanding performance, reliability and management requirements of modern networked storage systems that utilize high performance and low latency solid state storage drives for caching and persistent storage as well as hard disk drive arrays.</li> <li>The unique Emulex Dynamic Multi-core Architecture delivers unparalleled performance and more efficient port utilization than other HBAs by applying all ASIC resources to any port that needs it.</li> <li>Emulex Gen 6 FC HBAs deliver enhanced security via the new secure firmware update feature which protects and ensures the authenticity of device firmware.</li> <li>The flagship OneCommand® Manager enterprise-class management application features a multiprotocol, cross-platform architecture that provides centralized management of all current and previous generations of Emulex FC HBAs. This enables IT administrators to manage network connectivity with one tool for maximum efficiency.</li> </ul>

# Technical details

## Technical details

<b>Controller Silicon</b>	Emulex XE501
<b>Controller type</b>	Fibre Channel Host Bus Adapter
<b>Connector type</b>	LC-style
<b>Number of ports</b>	1 2
<b>Auto Negotiation support</b>	Yes
<b>Bus interface</b>	PCIe 3.0 x8
<b>Bus transfer rate</b>	8GT/s
<b>LEDs</b>	2 LEDs per port (yellow and green)
<b>Standards</b>	<ul style="list-style-type: none"> <li>- Current ANSI/IEF Standards: FC-PI-4; FC-PI-5; FC-PI-6; FC-FS-3; FC-LS-2; FC-GS-6; FC-DA; FC-DA2; FCP-4; SPC-4; SBC-3; SSC-3; SSC-4</li> <li>- Legacy ANSI/IEF standards: FC-PH; FC-PH-2; FC-PH-3; FC-PI; FC-PI-2; FC-FS; FC-GS-2/3/4/5; FCP-2/3; FC-HBA; FC-TAPE; FC-MI; SPC-3; SBC-2; SSC-2; SSC-3</li> <li>- PCIe base spec 3.0</li> <li>- PCIe card electromechanical spec 3.0</li> <li>- Fibre Channel Class 3</li> <li>- PHP hot plug-hot swap</li> </ul>
<b>Technology</b>	Optics: 16 Gb/s short wave lasers with LC type connectors. Data rates: 14.025 Gb/s (16GFC); 8.5 Gb/s (8GFC); 4.25 Gb/s (4GFC) automatically negotiated
<b>Supported cable length</b>	<p>Operating at 16Gb</p> <ul style="list-style-type: none"> <li>- OM4 (Multi-Mode 50/125µm, 4700 MHz*km) 125m</li> <li>- OM3 (Multi-Mode 50/125µm, 2000 MHz*km) 100m</li> <li>- OM2 (Multi-Mode 50/125µm, 500 MHz*km) 35m</li> </ul> <p>Operating at 8Gb</p> <ul style="list-style-type: none"> <li>- OM4 (Multi-Mode 50/125µm, 4700 MHz*km) 190m</li> <li>- OM3 (Multi-Mode 50/125µm, 2000 MHz*km) 150m</li> <li>- OM2 (Multi-Mode 50/125µm, 500 MHz*km) 50m</li> </ul>
<b>FC Controller notes</b>	the controller is equivalent to the original Emulex HBA LPe31000-Series
<b>Fibre Channel interface</b>	MMF

Order code	Product name (vendor)	Height of bracket	Number of ports	Related product
S26361-F5596-E1	LPe31000-M6-F	Full Height (FH)	1	PRIMERGY Server
S26361-F5596-E201	LPe31000-M6-F	Low Profile (LP)	1	PRIMERGY Server
S26361-F5596-E202	LPe31002-M6-F	Low Profile (LP)	2	PRIMERGY Server
S26361-F5596-E2	LPe31002-M6-F	Full Height (FH)	2	PRIMERGY Server
S26361-F5596-L501	LPe31000-M6-F	Full Height / Low Profile	1	PRIMERGY Server
S26361-F5596-L502	LPe31002-M6-F	Full Height / Low Profile	2	PRIMERGY Server

## Environment

<b>Power consumption</b>	single: typical 9.3W; max 11.6 W dual: typical 11.1W; max 13.3 W
<b>Temperature (operating)</b>	0 - 55 °C
<b>Storage temperature</b>	-40 - 70 °C

## Compliance

<b>Compliance notes</b>	According to the corresponding system
<b>Compliance link</b>	<a href="https://sp.ts.fujitsu.com/sites/certificates">https://sp.ts.fujitsu.com/sites/certificates</a>

## More information

### Fujitsu products, solutions & services

In addition to Fujitsu with PFC EP Emulex LPe31000 / LPe31002 Fibre Channel Adapters, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

#### Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

#### Computing Products

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#### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

### More information

Learn more about FUJITSU Server PFC EP Emulex LPe31000 / LPe31002 Fibre Channel Adapters, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.

[www.fujitsu.com/primergy](http://www.fujitsu.com/primergy)

### Fujitsu green policy innovation

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Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT. Please find further information at <http://www.fujitsu.com/global/about/environment>



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Fujitsu Limited  
Website: [www.fujitsu.com/primergy](http://www.fujitsu.com/primergy)  
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