

Brocade 16 Gbps ELWL (25 KM) Optical Transceiver

HIGHLIGHTS

- Provides high system reliability through rigorous qualification and certification processes
- Leverages unique design parameters to provide the highest performance with industry-leading Brocade switch and backbone platforms to support business continuity and disaster recovery
- Helps eliminate issues related to SFP incompatibility, reducing downtime and support costs
- Helps eliminate issues resulting from unexpected design changes, providing ongoing end-to-end compatibility
- Optimizes connectivity with Brocade platforms to enable maximum cable distance
- Extends Fibre Channel connectivity over distance in mainframe environments

Optimized, Certified Optical Transceivers for Extending Data Center Fabrics

Today's enterprise data centers are undergoing an infrastructure transformation, requiring higher speeds, greater scalability, and higher levels of performance and reliability to better meet the demands of business. As speed and performance needs increase, optical transceivers—once considered a generic component of Fibre Channel switching technologies—have become an integral part of overall system design. However, optical transceiver design margins and parameters vary widely, and can be the difference between an optimized, highly reliable fabric and incompatibility issues that drive up support costs.

The Brocade® 16 Gbps Extended Long Wavelength (ELWL) 25 KM optical transceiver, part of the Brocade family of Small Form-Factor Pluggable (SFP) optical transceivers, is optimized to fully leverage Brocade backbone and switch products. Brocade ELWL SFPs extend native Fibre Channel connectivity over distance, enabling high-performance disaster recovery and business continuity solutions.

The Brocade ELWL SFPs are the standard choice for use in mainframe environments, connecting to IBM System z channels and FICON® devices over distance for business continuity and disaster recovery. Together with Brocade switching products, they provide state-of-the-art performance, helping IT organizations achieve new levels of infrastructure consolidation while expanding the capabilities of their applications and services.

End-to-End Compatibility and Reliability

Brocade 16 Gbps ELWL 25 KM optical transceivers support highly reliable operations in data center fabrics and are optimized for Brocade switching platforms. They undergo rigorous qualification and certification testing that results in an end-to-end solution that is easier to maintain—helping to improve the availability of data center fabrics supporting mission-critical applications.

Key Features

Brocade 16 Gbps ELWL 25 KM SFPs are hot-swappable, low-voltage (3.3 V) digital diagnostic optical transceivers that support high-speed serial links over single-mode optical fiber at signaling rates up to 14.025 Gbps. They comply with SFP mechanical (SFF-8432), optical, and electrical specifications (FC-PI-5) for LC duplex transceivers. Brocade 16 Gbps ELWL 25 KM optical transceivers are 1310 nm SFPs that comply with 14.025 Gbps, 8.5 Gbps, and 4.25 Gbps Fibre Channel specifications. Product highlights include:

- 1310 nm DFB laser
- FC-PI-5 compliance for 14.025 Gbps, 8.5 Gbps, and 4.25 Gbps operation
- Diagnostic features per SFF-8472 "Diagnostic Monitoring Interface for Optical Transceivers," providing real-time monitoring of:
 - Transmitted optical power
 - Received optical power
 - Laser bias current
 - Temperature
 - Supply voltage
- Industry-standard LC duplex connector

- 25 KM link lengths at 8.5 Gbps on 9 μ m single-mode fiber (with 10 KM minimum link length)
- IEC 60825-1 Class 1/CDRH Class 1 laser, eye-safe
- Compliance with Restriction on Hazardous Substances (RoHS) directive

Family of Optical Transceivers

Brocade offers a comprehensive family of 4 Gbps, 8 Gbps, 10 Gbps, and 16 Gbps SFPs to provide highly compatible, high-performance connectivity to Brocade backbone and switch products.

For additional ordering information, contact a Brocade representative or visit www.brocade.com/howtobuy.

Brocade Global Services

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services, technical support, network monitoring services, and education, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

Cloud-Optimized Network Acquisition

Brocade helps organizations easily address their information technology requirements by offering flexible network acquisition and support alternatives to meet their financial needs. Organizations can select from purchase, lease, and Brocade Network Subscription options to align network acquisition with their unique capital requirements and risk profiles. To learn more, visit www.brocade.com/CapitalSolutions.

Maximizing Investments

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit www.brocade.com.

Brocade 16 Gbps ELWL 25 KM Specifications

Systems

Performance	Fibre Channel: 4.25 Gbps, 8.5 Gbps, and 14.025 Gbps line speed, full duplex; auto-sensing of 4 Gbps, 8 Gbps, and 14 Gbps port speeds
Media	Hot-pluggable, industry-standard Small Form-Factor Pluggable (SFP+), LC connector; Extended Long Wavelength (ELWL) 25 KM; minimum link distance of 10 KM required
Operating parameters	Transmit (Tx): <ul style="list-style-type: none">• Wavelength: 1295 to 1325 nm• Average power: -2.0 to +6.0 dBm• RIN: -130 dB/Hz max• Optical return loss: 12 dB max• OMA: 1.26 mW min Receive (Rx): <ul style="list-style-type: none">• Average power: 2.0 dBm max• Optical return loss: -12 dB min• Unstressed sensitivity: 39.8 μW, -14.0 dBm• 3 dB cutoff maximum: 18 GHz

Mechanicals

Size	Width: 14.80 mm (0.58 in.) Height: 11.85 mm (0.47 in.) Depth: 56.50 mm (2.22 in.)
------	---

Environmentals

Storage temperature	-40°C to 85°C (-40°F to 185°F)
---------------------	--------------------------------

Power

Power dissipation	1.1 W
-------------------	-------

Regulatory and Standards Compliance

- North America: UL/CSA 60950, CDRH Class 1
- European Union: EN 60950, EN 60825 Class 1

Caution:

- *Do not look through the optical ports, as it is a potential eye hazard.*
- *SFP is an ESD sensitivity Class 2 device. It should be handled accordingly.*

For information related to SFF Committee documentation, visit www.sffcommittee.org.

For information about supported SAN standards, visit www.brocade.com/sanstandards.

For information about switch and device interoperability, visit www.brocade.com/interoperability.

Corporate Headquarters

San Jose, CA USA
T: +1-408-333-8000
info@brocade.com

European Headquarters

Geneva, Switzerland
T: +41-22-799-56-40
emea-info@brocade.com

Asia Pacific Headquarters

Singapore
T: +65-6538-4700
apac-info@brocade.com



© 2015 Brocade Communications Systems, Inc. All Rights Reserved. 06/15 GA-DS-1716-01

ADX, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, HyperEdge, ICX, MLX, MyBrocade, OpenScript, The Effortless Network, VCS, VDX, Vplane, and Vyatta are registered trademarks, and Fabric Vision and vADX are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of others.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment features, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This information document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.

