

Product Brief

Highlights

- Provides high system reliability through a rigorous qualification and certification process.
- Enables Brocade switch and director platforms with the highest performance to support business continuity and disaster recovery.
- Eliminates issues related to SFP incompatibility, reducing downtime and support costs.
- Extends Fibre Channel connectivity over distance.

Ordering Part Numbers

- XBR-000258 (1-pack)
- XBR-000458 (1-pack)

Brocade[®] 16G ELWL SFP+

Optimized, Certified 25 km Optical Transceiver for Extending Data Center Fabrics

Overview

Today's enterprise data centers are undergoing an infrastructure transformation, requiring higher speeds, greater scalability, and higher levels of performance and reliability to meet the increasing demands of business. As speed and performance needs increase, optical transceivers have become an integral part of overall system design.

The Brocade 16G 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 director and switch products. Brocade ELWL SFPs extend native Fibre Channel connectivity over distance, enabling high-performance disaster recovery and business continuity solutions. 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.

The Brocade 16G ELWL 25 km SFPs are hot-swappable, low-voltage (3.3V) digital diagnostic optical transceivers that support high-speed serial links over single-mode optical fiber. They comply with SFP mechanical (SFF-8432), optical, and electrical specifications (FC-P1-5) for LC duplex transceivers.

Product highlights include:

- 1310 nm DFB laser
- FC-P1-5 compliance for 14.025/8.5/4.25Gb/s 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
- 25 km link lengths at 14.025Gb/s on 9 μm single-mode fiber
- IEC 60825-1 Class 1/CDRH Class 1 laser eye safe
- Compliance with Restriction on Hazardous Substances (RoHS) directive

End-to-End Compatibility and Reliability

The Brocade 16G 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 improve the availability of data-center fabrics supporting mission-critical applications.

Family of Optical Transceivers

Brocade offers a comprehensive family of reliable optical transceivers to provide highly compatible, high-performance connectivity to Brocade director and switch products. For additional ordering information, contact a Brocade representative or visit broadcom.com/support/fibre-channel-networking.

- For information related to SFF Committee documentation, visit snia.org/sff.
- For information about supported SAN standards, visit broadcom.com/sanstandards.
- For information about switch and device interoperability, visit broadcom.com/products/fibre-channel-networking/transceiver-modules.

Brocade 16G ELWL 25 km SFP+ Specifications

System	
Performance	Fibre Channel: 4.25, 8.5, and 14.025Gb/s line speed, full duplex; auto-sensing of 4, 8, and 16Gb/s port speeds
Media	Hot-pluggable, industry-standard Small Form-Factor Pluggable (SFP+), LC connector; Extended Long Wavelength (ELWL)
Operating Parameters	Transmit (Tx): <ul style="list-style-type: none"> • Wavelength: 1295 nm to 1325 nm • Average power: -5.0 dBm to 5.0 dBm • RIN: -130 dB/Hz max • Optical return loss: 12 dB max • OMA: 1.25 mW min, -2.0 dBm Receive (Rx): <ul style="list-style-type: none"> • Average power: 2.0 dBm max • Optical return loss: -12 dB min • Unstressed sensitivity: 40 µW, -12.0 dBm
Mechanical	
Size	Width: 14.80 mm (0.58 in.) Height: 11.85 mm (0.47 in.) Depth: 56.50 mm (2.22 in.)
Environmental	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Power	
Power Dissipation	1.1W
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.