

Optical Transceivers



Spectrum Control's OptoXtreme™ 16010 multi-mode optical transceivers enable high-speed, mission-critical data transfer in extreme environments, featuring a pluggable optical connector, BGA contacts for PCB mounting, and a hermetic enclosure.



- **Operate Where Others Fail:** 125°C performance in extreme environments
- **Mission-Ready Reliability:** Hermetically sealed enclosure for harsh conditions
- **Seamless System Integration:** Supports variable data rates for backward compatibility
- **Rugged, Compact Design:** HTBGA solder ball contacts or LGA with interposer
- **Modular Optical Interface:** MT-12 ferrule with proprietary retaining mechanism

Challenge	Our Solution	System Impact
Copper limits bandwidth and data rates	A single fiber core carrying up to 10x more data	Increased data throughput and bandwidth scalability
EMI degrades signal integrity	Eliminate crosstalk and improve signal integrity	Improved signal integrity and data reliability
SWaP constraints in dense systems	Much lighter and smaller than copper	Reduced size, weight, and power
Harsh environments impact performance	Hermetic, ruggedized design	Reliable operation in extreme conditions

Where Spectrum Delivers Value: High-speed optical data links that improve signal integrity, reduce SWaP, and ensure reliable performance in harsh, mission-critical environments.

Applications



Satellites



Electronic Warfare



Radar



Avionics

OptoXtreme™ Model 16010



High-speed, EMI-immune data transfer for mission-critical systems in harsh environments.

- Multi-mode optical wavelength (850 nm)
- Quad transmit (TX) and receive (RX) @ 20 Mbps to >10 Gbps per channel
- Low power dissipation, typ. 150mW per channel
- Wide operating temperature range: -50°C to +125°C
- MT-12 ferrule with proprietary retaining mechanism
- BGA solder ball contacts or LGA with interposer
- Hermetic enclosure
- Qualified I.A.W MIL-Standard 38534

Vibration-Resilient, Low-Loss Optical Coupling



Secure alignment for consistent coupling, with built-in access for inspection and cleaning

High-reliability, low-loss MPO optical connector designed for vibration-intensive environments. A precision alignment system and secure locking mechanism maintain stable, repeatable optical coupling without loosening under shock or vibration. Compact, rugged construction supports in-system inspection and cleaning for simplified maintenance.



Pluggable Interface with Collet Latch

The pluggable optical interface mates with an MPOP connector to provide a reliable, latched connection and precise coupling



About Spectrum Control

Spectrum Control is a mission-focused technology company delivering innovative, adaptable solutions across RF, optical, power, digital, and EMI protection that go beyond specifications to support system performance and program success.

RF Signal Chain

Power/Protect/
Interconnect

Communications
& Data Layer

To learn more about these products or
Spectrum Control email us at
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