



SERIES 185-002 HI-BEAM™

Industry standard ball lens expanded beam solution

In accordance with MIL-DTL-83526 /20 and /21 hermaphroditic

Commercial and military customers, such as those engaged in geo-physical exploration, mass-transit and tactical warfare now depend on optical interconnect technology due to its many advantages over electrical transmission systems. Sealed expanded beam interconnect technology prevents water, mud, dust, oil and other chemicals from contaminating the optical path and deteriorating system performance. Connector housings are available in a variety of material and finish choices, including cadmium-free and RoHS-compliant options. Boots, grips, and seals are available in a range of materials as well.



- Ball lens expanded beam IAW MIL-DTL-83526 /20 and /21
- Beam expansion dramatically reduces loss due to contamination
- Large ball lens facilitates easy cleaning
- Fully intermateable with all MIL-DTL-83526 /20 and /21 compliant connectors
- 2 and 4-channel insert arrangements
- Expanded beam lens insert also available in D38999 type packaging

SERIES 185-002 HI-BEAM™

MIL-DTL-83526 /20 & /21 compliant and intermateable hermaphroditic expanded beam connectors



SERIES 185-002 HI-BEAM™ CONNECTORS AND CABLES



M83526/20 type
Hermaphroditic Cable Plug Configuration

M83526/21 type
Panel-Mount Configuration

The Glenair 185-002 Hi-Beam™ connector series is a miniaturized connector suited for a vast array of applications. The innovative design ensures its ability for deployment in the toughest environments where high performance, total reliability and reduced package size are critical. Benefiting from low insertion loss expanded beam technology, the precision optical alignment system is tolerant of water, mud, dust and other contaminants. Hermaphroditic coupling eliminates the need for adapters and male and female mating halves. The 185-002 Hi-Beam™ is ideally suited for environmental extremes where low maintenance and rapid deployment are necessary. Connectors and cable assemblies are field installable and repairable.

Expanded Beam vs. Physical Contact Connectors

Physical Contact



Physical contact fiber optic connectors utilize butt-joint type contacts called termini. Mating pairs of termini may be integrated into virtually any connector shell design. The polished mating faces provide extremely low-loss transmission of optical signals but are best suited to clean and controlled environmental applications.

Expanded Beam



Expanded Beam connectors utilize a sealed lens to expand the emitting beam of light from the fiber media. The expanded beam is then refocused back into the fiber of the mating half. These sealed assemblies are ideally suited for environmental applications where optical connectors are subjected to repeated mating/unmating cycles.

Series 185-002 Hi-Beam™ Performance Specifications

Insertion Loss	Multimode: 1.0 dB at 850/1300nm Singlemode: 1.5 dB at 1310/1550nm
Return Loss	Singlemode: Better than 34 dB unmated
Operating Temperature	-46°C to +71°C
Storage Temperature	-57°C to +85°C
Mating Durability	3000 mating cycles minimum
Cable Retention	1500N (cable dependent)
Bump	4000 bumps at 40g acceleration
Impact	8 drops from 0.9m per TIA/EIA-455-2, Method C, Service Class: Severe
Drop (Free Fall)	500 falls onto concrete from 1.2m
Vibration - Sinusoidal	10g Peak per TIA/EIA-455-11, Test Condition III
Vibration - Random	9g RMS per TIA/EIA-455-11, Test Condition VI-C, for 1.5 hours
Physical Shock (Half-sine Pulse)	50g Peak, 5 shocks per axis (30 shocks total) per TIA-455-14, Test Condition A
Water Immersion	Depth of 15m for 24 hours per TIA-455-74

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