

# DIAMOND

## Fiber Optic Components

### CABLE ASSEMBLIES AND ADAPTERS

The Diamond X-BEAM is a genderless tactical fiber optic connector which uses lens based expanded beam technology for ease of cleaning and mating in outdoor applications. The X-BEAM expands and collimates the transmission signal at the mating point. The expanded beam technology reduces the impact of both misalignment as well as endface contamination. The lens system encloses and protects the fiber end face allowing the connector to be quickly cleaned and mated in the field without special tools. Genderless construction helps simplify use under adverse conditions. The X-BEAM connector is an ideal choice for use within harsh environments such as field-deployable communications, mobile diagnostic units, avionics, security systems and much more. The Diamond X-BEAM 4 channels connector is terminated with Diamond's homologated MM and SM cable (Customer cable assemblies available upon request).

The X-BEAM FUSION incorporates a special insert with removable Fiber Optic termini which allow an easy field termination and repair, this thanks to a quick termini locking mechanism and the Diamond ZEUS D50 HE Fusion splicer, only for Multimode cable.

### FEATURES AND BENEFITS

- ▶ Rugged construction for high reliable optical connections
- ▶ IP 68 rated enclosure, IEC 60529 compliant
- ▶ Intermateable with connectors compliant with MIL-DTL83526/20/21
- ▶ High tolerance connector housings  
*Easily mated, repeatable, low loss connections*
- ▶ Integrated expanded beam lens system  
*Protects the fiber endface and improves optical performance in harsh environment applications*
- ▶ Keyed, self aligning, connector housing  
*Aides in "blind mating" applications*

### AVAILABLE AS

- ▶ Terminated connector
- ▶ Fusion connector set, (to be terminated with Diamond special equipment)

### SPECIFICATIONS X-BEAM

	SPECIFICATIONS	UNITS	TEST CONDITIONS
Insertion Loss (IL) SM	typ. 0.9 max. 1.6	dB	IEC 61300-3-34; $\lambda = 1310/1550$ nm
Return Loss (RL) SM	typ. 30	dB	IEC 61300-3-6; $\lambda = 1310/1550$ nm
Insertion Loss (IL) MM	typ. 0.7 max. 1.3	dB	IEC 61300-3-34; $\lambda = 1310$ nm;
Return Loss (RL) MM	typ. 25	dB	IEC 61300-3-6; $\lambda = 1310$ nm
Operating temperature	-55/+85	°C	IEC 61300-2-22
Storage temperature	-55/+85	°C	-
Damp heat, cyclic	+25°C/+55°C at +95% r.h.	-	IEC 61300-2-46
Humidity	+30°C/+60°C at 95% r.h.	-	MIL-STD-810G / 507.5 / II
Dry Heat	+85	°C	IEC 61300-2-18
Cold	-55	°C	IEC 61300-2-17
Vibration, sinusoidal	10 g / 10-2'000 Hz	-	IEC 61300-2-1
Vibration, random	5 gRMS / 10-2'000 Hz	-	MIL-STD-810G / 514.6 / I
Free fall	falls at 1.2 m	-	IEC 61300-2-12
Bench handling	10 cm at 45°	-	MIL-STD-810G / 516.6 / VI
Coupling endurance	2500 couplings	-	According to field experience
Cable retention	800	N	IEC 61300-2-4
Cable torsion	25 N at +/-180°	-	IEC 61300-2-5
Cable flexing	15 N at +/-90°	-	IEC 61300-2-44
Altitude	9'145	m	MIL-STD-810G / 500.5 / I
Bulkhead sealing	max. < 10 <sup>-6</sup>	mbar l/s	EN 1779 / DIN EN 13185

### X-BEAM Std. & Fusion

(Harsh environment)

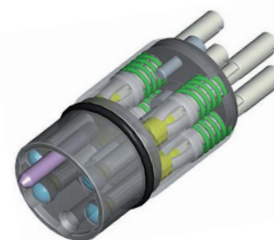
### SINGLE MODE & MULTIMODE



X-BEAM OLB and OLC standard and fusion



ZEUS D50 HE Fusion Field Termination Kit



X-BEAM 4 channels insert

**ADDITIONAL X-BEAM FUSION SPECIFICATIONS**

		UNITS	TEST CONDITIONS
Insertion Loss (IL) MM	typ. 0.9 max. 1.4 (97%)	dB	IEC 61300; $\lambda = 1300$ nm; CPR 18dB
Return Loss (RL) MM	min. 18	dB	IEC 61300; $\lambda = 1300$ nm
Vibration, sinusoidal	10-500	Hz	3 directions, 10g acceleration
Free fall	500 falls		On concrete; severity 1.2m
Operating temperature	-40/+85*	°C	IEC 61300-2-22
Storage temperature	-55/+85* ( $\Delta$ IL < 0.8 dB)	°C	
Damp heat, cyclic	+55*	°C	IEC 61300-2-46

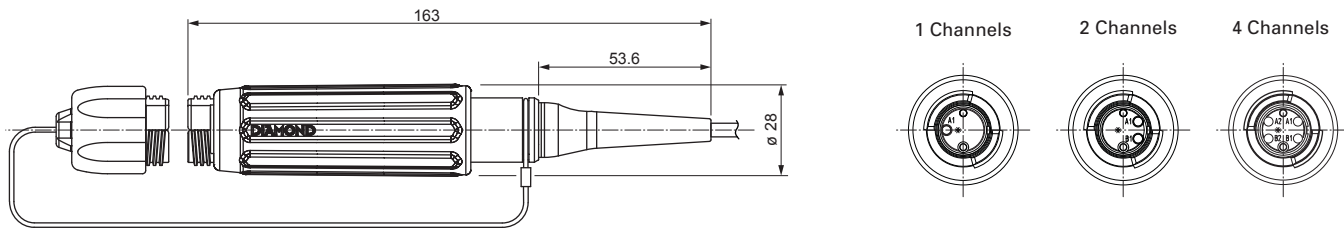
\* May be further limited by cable specifications

**CONNECTOR TYPES AND DIMENSIONS**

X-BEAM OLC (Optical Lenses Connector), 1 to 4 channels

Available types: **X-BEAM OLC 2 x and 4x**

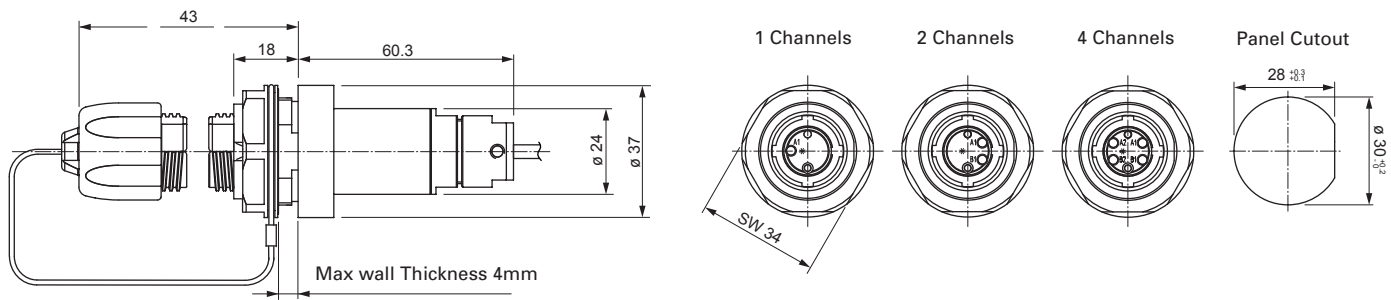
Housing material: Metal/plastic (Black)



X-BEAM OLB (Optical Lenses Bulkhead), 1 to 4 channels

Available types: **X-BEAM OLB 2 x and 4x**

Housing material: Metal (Black)



**Diamond homologated OCC cables:**

- > OCC SM Cable: ITU-T G.652.A
- > OCC MM Cable: ISO/IEC 11801 OM2 50/125

DIAMOND P/N 1027987  
DIAMOND P/N 1037942



NOTE Other configuration available upon request.

**ORDER INFORMATION**

Please contact your nearest local Diamond representative or fill in the contact form available on the [www.diamond-fo.com](http://www.diamond-fo.com) website.