

DIAMOND

Fiber Optic Components

CABLE ASSEMBLIES

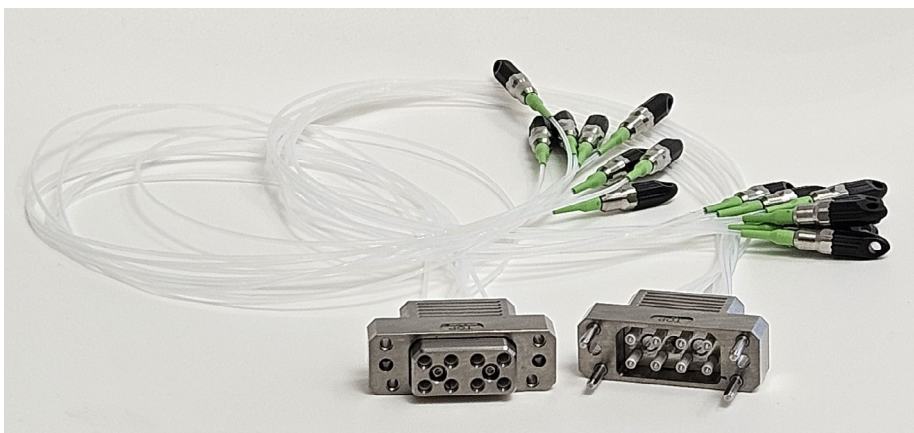
PRELIMINARY

The **DIAMOND CMC-8**, a compact and versatile multi-channel connector built for Space environments. Whether you're working on satellites, aerospace, or quantum applications, this connector is designed to keep your data flowing smoothly, even in the most extreme conditions.

Featuring **8 customizable channels**, the DIAMOND CMC-8 can be tailored to meet your unique requirements. With options in rugged stainless steel or ultra-lightweight titanium, it's built to withstand the shock, vibration and temperature shifts of Space missions.

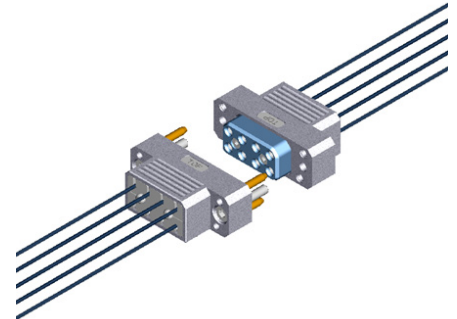
FEATURES AND BENEFITS

- ▶ Light, resistant to vibrations and low temperatures
- ▶ Compact, reliable and configurable according to needs
- ▶ Compatible in applications such as space and cryogenic requirements (-150°C / -238°F)
- ▶ Based on 2.5mm ferrule with 0.1dB quality
- ▶ Up to 8 channels
- ▶ Easy cleaning and inspection system
- ▶ Body available in titanium or stainless steel
- ▶ Multi-channel with high optical performance
- ▶ Available with SM, MM, and PM fibers



DIAMOND CMC-8

Compact Multi-Channel Connector



DIAMOND CMC-8

OPTICAL PERFORMANCES

Target optical values

- ▶ IL < 0.4 dB
- ▶ PER > 17 dB

Prototypes optical values

IL and PER value at @ 1550 nm using a PM fiber 8/125/400 Panda 1550 nm

CH	IL 1550 nm [dB]	ER 1550 nm [dB]	Angle [°]
1	0.03	26.9	1.3
2	0.01	24.6	0.2
3	0.17	26.5	-1.1
4	0.15	28.4	0.6
5	0.16	21.6	0.2
6	0.28	27.6	-0.5
7	0.16	27.0	-0.5
8	0.17	21.6	0.2

- ▶ Average IL value for the connection 0.14 dB with standard deviation of 0.09 dB
- ▶ Average ER value of the connection is 25.5 dB with a standard deviation of 2.65 dB
- ▶ Average absolute value of Angle alignment of connection is 0.56° with standard deviation of 0.42°

ENVIRONMENTAL CONDITIONS

- ▶ Vacuum compatibility with target pressure 1e-6 Torr
- ▶ Cryogenic applications requirements compatible (-150°C / -238°F)

MECHANICAL CONDITIONS

- ▶ Mating compression: 70.3N: 8.8N per connection (Norm. 7.8-11.8N)
- ▶ Extraction force per mating sleeve: 3N
- ▶ Extraction force for entire connector: 24N

CONNECTOR TYPES AND DIMENSIONS

DIAMOND CMC-8 FEMALE CONNECTOR - 8 CHANNELS

Ferrule material: Zirconia / stainless steel insert
 External parts: Titanium and stainless steel

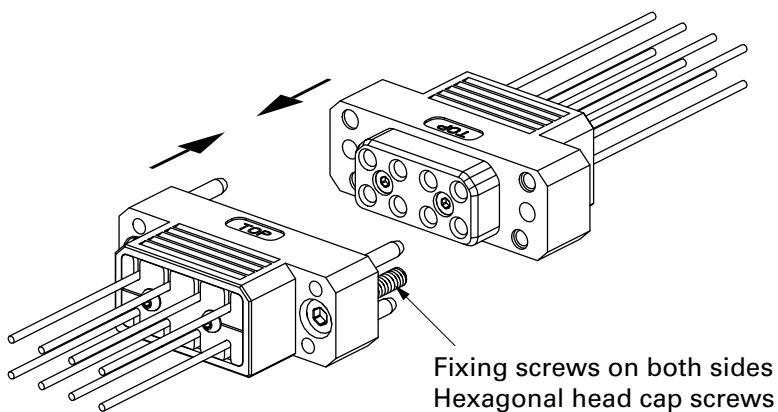


DIAMOND CMC-8 MALE CONNECTOR - 8 CHANNELS

Ferrule material: Zirconia / stainless steel insert
 External parts: Titanium and stainless steel



CONNECTION SYSTEM



ORDER INFORMATION

Please contact your nearest local Diamond representative or fill in the contact form available on the www.diamond-fo.com website.