

# DIAMOND

## Fiber Optic Components

### CABLE ASSEMBLIES AND ADAPTERS

Diamond has developed the new rugged, MIL-83526 DM4 connector featuring the DM4 (Multipurpose Termini) for superior optical performance. This connector is extremely well suited for harsh environments and other demanding applications. The MIL-83526 DM4 (Multipurpose Termini) connector incorporates four (4) termini utilizing Diamond's two-component ferrules, assembled with the company's Active Core Alignment (ACA) process for unparalleled fiber core concentricity. This connector is also available with electrical contacts for hybrid E/O applications.

The MIL-83526 DM4 connector is available for MM, SM (PC/APC), XB Lensed Ferrule and small-core single mode fiber, polarization-maintaining (PM) fiber, and other specialty fiber types. Furthermore, Diamond's splice-on termini can be field terminated with the Diamond ZEUS D50 HE fusion splicer, allowing for in-service repairs and custom installation.

### FEATURES AND BENEFITS

- ▶ Rugged construction for highly reliable optical connections
- ▶ IP class: IP68 rated
- ▶ Easy ferrule front-face access for cleaning & inspection
- ▶ Keyed, self aligning, connector housing aides in "blind mating" applications
- ▶ Electrical pin size 20 AWG
- ▶ Easy termini insertion and removal for field termination and repair
- ▶ Lensed Ferrule 1.7mm Alberinos

### CHARACTERISTICS OF DM4

- ▶ Well dimensioned hollow guide pins insure precise and repeatable pre-alignment
- ▶ Interacting, space saving pre-alignment hollow guide pins
- ▶ Robust alignment sleeve is protected in the hollow pre-alignment guide pins
- ▶ Alignment sleeves individually removable for easy cleaning
- ▶ Full protection of the optical elements from all external influences such as rotating, bending and/or lateral stress
- ▶ Ability for mechanical keying

## MIL-83526 DM4

(Harsh environment)



MIL-83526 DM4 connector and bulkhead



DM4 (Multipurpose Termini)



DM Termini (Optical - electrical termini)

## OPTICAL PERFORMANCES (obtained with the diamond proposed cables)

MEASUREMENT/TEST	MULTIMODE	SINGLE MODE PC/APC	STANDARDS
Insertion loss (std. version)	typ. 0.20 dB max. 0.50 dB	typ. 0.15 dB max. 0.45 dB	IEC 61300-3-4 ( $\lambda = 1310 / 1550$ nm)
Insertion loss (fusion version)	typ. 0.20 dB max. 0.50 dB	typ. 0.25 dB max. 0.45 dB	IEC 61300-3-4 ( $\lambda = 1310 / 1550$ nm)
Insertion loss (PM version)	-	typ. 0.25 dB max. 0.45 dB	IEC 61300-3-4 ( $\lambda = 1310 / 1550$ nm)
Return loss	min. 40 dB	min. 75 dB (APC) min. 50 (PC)	IEC 61300-3-6 ( $\lambda = 1550$ nm)
Extinction Ratio	-	typ. 23 dB min. 20 dB	Diamond validated cross polarizers method ( $\lambda = 1550$ nm)

## OPTICAL SPECIFICATIONS LENSED FERRULE (SM)

MEASUREMENT / TEST	METHOD	VALUES SINGLE MODE
Insertion loss, random mated	IEC 61300-3-34	IL type 0.6 dB max 1 dB
Return loss	IEC 61300-3-6	RL min. 35 dB

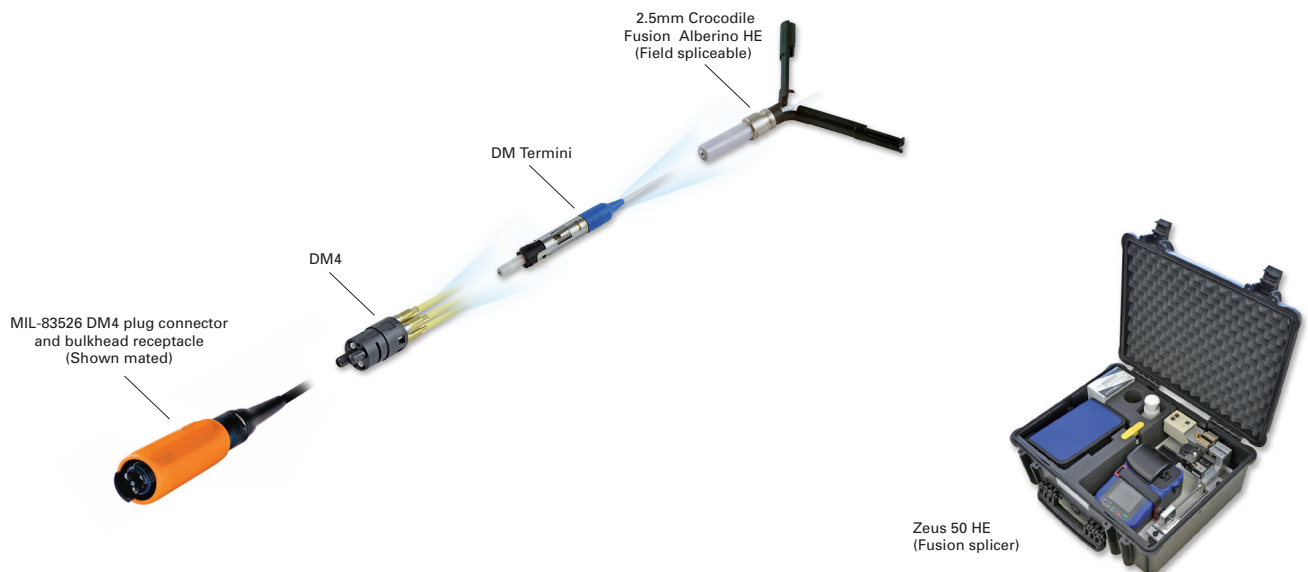
## ELECTRICAL TESTS

Insulation resistant test	Resistance >200 M $\Omega$	IEC 60512-3-1: 2002 (500V / 60 s)
Voltage Proof test	PASS	IEC 60512-4-1: 2003 (2500V / 60 s / 50 Hz)

## MECHANICAL AND ENVIRONMENTAL CONDITIONS

Change of temperature	-55 / + 85 °C	IEC 61300-2-22 ( $\lambda = 1310 / 1550$ nm)
Low temperature	-55 °C (96h)	MIL-STD-810G ( $\lambda = 1310 / 1550$ nm)
High temperature	+85 °C (96h)	MIL-STD-810G ( $\lambda = 1310 / 1550$ nm)
Humidity	95% r.h. / 10 cycles	MIL-STD-810G ( $\lambda = 1310 / 1550$ nm)
Temperature shock	-55 / + 85 °C	MIL-STD-810G ( $\lambda = 1310 / 1550$ nm)
Low pressure / altitude	110 mbar / 15240 m	MIL-STD-810G ( $\lambda = 1310 / 1550$ nm)
Vibration	10/2000 Hz (3h)	MIL-STD-202G ( $\lambda = 1310 / 1550$ nm)
Mating durability	500 cycles	IEC 61300-2-2 ( $\lambda = 1310 / 1550$ nm)
Cable torsion	+/-180° / 25 cycles	IEC 61300-2-5 ( $\lambda = 1310 / 1550$ nm)
Flexing of strain relief	+/-90° / 25 cycles	IEC 61300-2-44 ( $\lambda = 1310 / 1550$ nm)
Cable retention on connector side	600N on multi-fiber cable	IEC 61300-2-6 ( $\lambda = 1310 / 1550$ nm)
Shock	1.2m / 26 drops	MIL-STD-810G ( $\lambda = 1310 / 1550$ nm)
Tensile strength of coupling mechanism	200 N	IEC 61300-2-6 ( $\lambda = 1310 / 1550$ nm)

## DIAMOND Zeus D50 HE FUSION SPLICER FOR FIELD INSTALLATION AND REPAIR



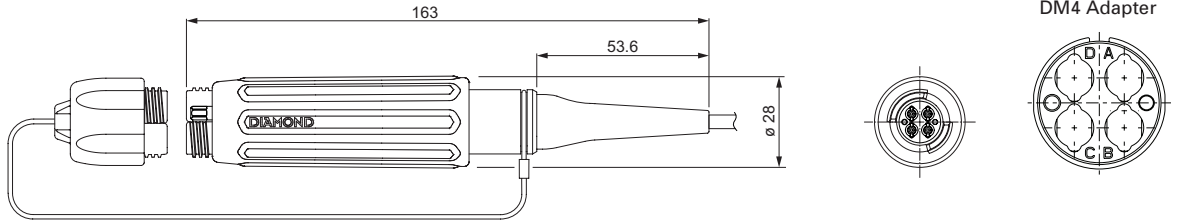
## ORDER INFORMATION

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.

CONNECTOR TYPES AND DIMENSIONS

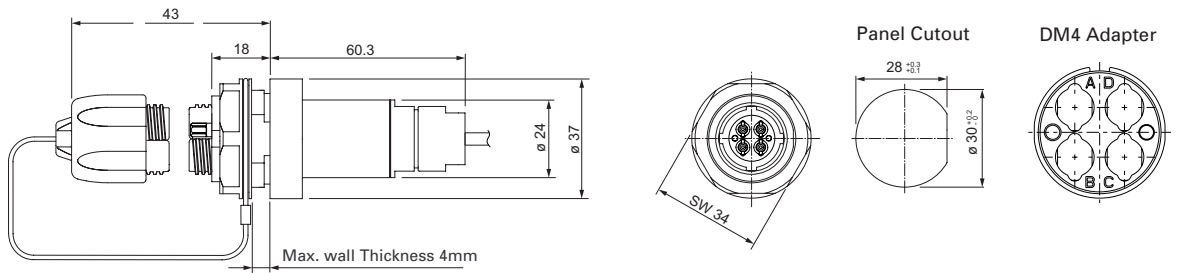
MIL-83526 DM4 (Connector)

Housing material: Metal (Black) / Plastic (Orange)



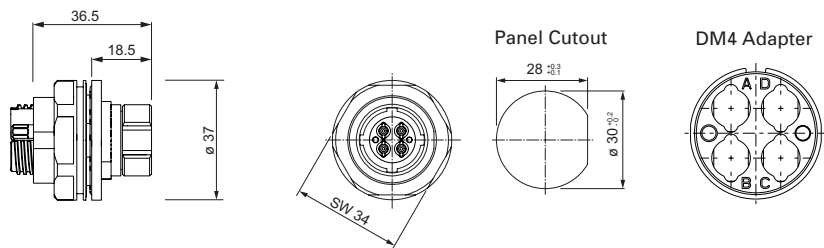
MIL-83526 DM4 (Bulkhead)

Housing material: Metal (Black) / Nut (Orange)



MIL-83526 DM4 (Bulkhead) Short

Housing material: Metal (Black) / Nut (Orange)



Diamond Homologated OCC cables:

- OCC SM Cable: ITU-T G.652.A
- OCC MM Cable: ISO/IEC 11801 OM2 50/125
- OCC MM Cable : ISO/IEC 110801 OM1 62.5/125

NOTE Other configuration available upon request.