

DCM-PC

Dispersion Compensating Patch Cord

Proximion's patch cord integrated dispersion compensator (DCM-PC) combines all the strengths of Proximion's continuous Fiber Bragg Grating (FBG) technology with the simplicity of an ordinary patch cord. By integrating an FBG with a patch cord, a very rugged and cost-effective dispersion solution is achieved. This novel way of packaging FBGs results in easy system in-design, effective system commissioning and valuable space savings.



Proximion's DCM-PC is the perfect product for system vendors or operators that seek a straightforward, flexible and cost-effective solution. The DCM-PC addresses a broad application space, reaching from basic TDM based metropolitan and regional networks, to channel or sub-band specific residual dispersion compensation in submarine DWDM terminals.

The ruggedness, unique form factor and temperature insensitivity of the patch cord DCM enables direct placement on the fiber tray, thereby making dispersion compensation an integral part of the fiber routing rather than the module based terminal structure.

Key Features

- Ultra-low loss
- No latency
- Continuous compensation
- Perfect slope matching
- No non-linear effects
- Improved space utilization

Applications

- Coherent systems
- Metro and regional
- 10, 40 and 100 Gbit/s
- Long haul
- Festoon and submarine
- Simplified optical amplifiers
- Dispersion emulation
- Optical pulse shaping
- HF trading
- SAN

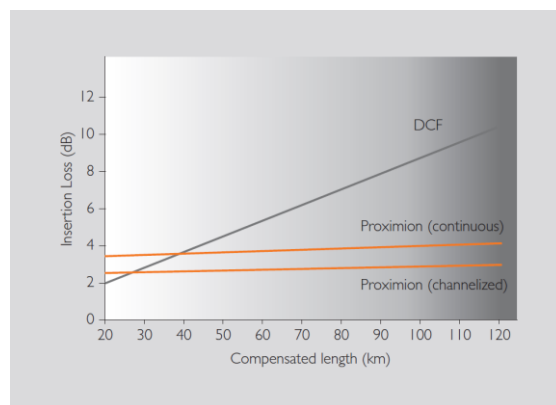
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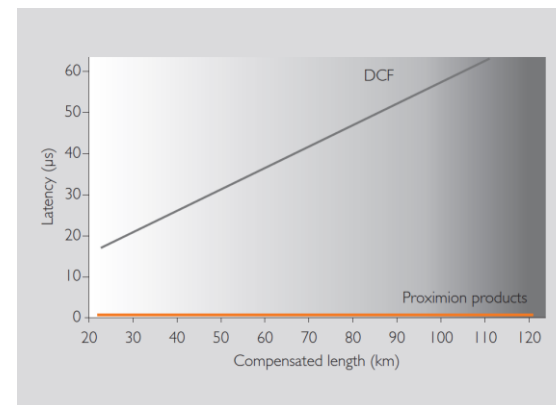
Optical specifications	DCM-PC	Mechanical specifications	DCM-PC
Dispersion	100 - 1300 ps/nm ¹	Operating temperature	-5 to + 70 °C
Optical Bandwidth	60 GHz or 760 GHz ¹	Storage temperature	-40 to +85 °C
Wavelength range	990-1700 nm ²	Package dimension	X x Y x Z mm
Channel spacing	N/A, continuous compensation across optical bandwidth	Patch cord lengths (2)	1.5 m
Insertion loss	Typically 2.5dB ³	Chirped FBG Length	Typ 1.4 – 1.5 m ⁵
Phase ripple peak-to-peak	< 0.15 rad		
Connectors	LC-UPC ⁴		

1. Dispersion and bandwidth can be customised, total delay up to ~ 8 ns
2. on a best-efforts basis outside of 1520- 1606 nm
3. Includes circulator double pass
4. As standard, all common connectors available
5. FBG length varies with specified dispersion

Ultra-low loss



No latency



Ultra-low loss

Proximion's FBG based DCMs only have a fraction of the total loss compared to DCF equivalents. The low loss enables a higher degree of freedom when optimizing a system with respect to reach, performance and cost. In longer spans it is a major cost saver since it reduces the amount of amplification needed.

No latency

Dispersion compensation products from Proximion have negligible latency. The latency is in the order of nanoseconds compared to microseconds in DCF based solutions. This makes Proximion's products perfectly suited for high-speed networks supporting low latency services, directly reducing link latency with 10 to 20 percent.

Continuous compensation

Proximion's continuous products offer seamless operation over the whole C-band, hence providing channel plan and modulation format independence. This makes Proximion's continuous products future proof as bit rate and channel count increases.

Perfect slope matching

Proximion's FBG based DCMs can be designed to perfectly mimic the dispersion and dispersion slope characteristic of any given fiber type. Low residual dispersion is crucial when migrating to higher bit rates.

No non-linear effects

Proximion's products tolerate high optical power without suffering from penalties caused by non-linear effects. Non-linear effects are not introduced even at the highest power level present throughout any traditional network. The products are thereby future proof for introduction of higher bit rate and channel count, an advantage over traditional DCF based solutions.

Improved space utilization

Proximion's compact FBG based solutions provide a dramatic improvement in space utilization, up to 95 percent, hence providing major cost savings with regard to both CAPEX and OPEX.