



## 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.*

### Key features

- ▶ Ultra-low loss
- ▶ No latency
- ▶ Continuous compensation
- ▶ No non-linear effects
- ▶ Improved space utilization

### Applications

- ▶ Metro and regional
- ▶ 10, 40 and 100 Gbit/s
- ▶ Festoon and submarine
- ▶ Sonet/SDH
- ▶ Simplified optical amplifiers
- ▶ Dispersion emulation
- ▶ Optical pulse shaping
- ▶ CATV
- ▶ SAN

Proximion's DCM-PC is the perfect solution 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.

### 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.

#### OPTICAL SPECIFICATIONS (Single channel DCM-PC)

Dispersion	640, 1020, 1360 ps/nm <sup>3</sup>
Optical bandwidth	> 60 GHz <sup>a)</sup>
Wavelength	1550.12 nm/193400 GHz <sup>b)</sup>
Insertion Loss	typical 2 dB
Phase ripple peak-to-peak	< 0.15 rad
Connectors	LC-UPC <sup>c)</sup>

- a) Other dispersions and bandwidths can be customized, up to full C-band.  
Dispersion x Optical bandwidth  $\leq$  8000 ps.
- b) Standard; other wavelengths available.
- c) Standard; all common connectors available.

