

# DCM/DCF Fixed Dispersion Compensation Module

## CWDM/DWDM System



### Specification

The DCM Fixed Dispersion Compensation Module is a new type of single-mode fiber designed to solve the problem of fiber dispersion in high-speed and long-distance communication systems. It is used for dispersion compensation of G.652 & G.655 standard single-mode fiber. The DCM features slope compensation, which enables wideband dispersion slope compensation in the C-band for standard single-mode fiber (G.652), which optimizes system residual dispersion. It is based on a proven and reliable fiber optic process that enhances the performance of optical transmission systems with a dispersion range of -10 to -2100 ps/nm at 1550 nm wavelength, and can provide products with special requirements for central wavelength and dispersion.

### Functions and features

- Low insertion loss, low polarization mode dispersion.
- Broadband dispersion compensation for DWDM systems.
- G.652 fiber C-band 100% slope compensation (standard value).
- Performance index had passed Telcordia GR-2854-CORE.
- Reliability had passed Telcordia GR-2854-CORE.
- Different packaging styles, connector types and jumper lengths are available.
- Supporting SNMP-based unified network management platform, network management mode CLI, WEB, NetRiver (graphical interface).

## Parameters

System Parameter	Technical Index				
	20Km	40Km	60Km	80Km	100Km
Dispersion compensator @1545nm (Ps/nm)	-340±20	-670±20	-1000±20	-1340±20	-1680±20
Relative dispersion @1545nm (Nm-1)	0.0036±20 % (general), 0.0036±10 % (senior).				
Insertion loss@1525-1565nm(dB)	≤3	≤4.8	≤6	≤7.6	≤8.8
Insertion loss (typical)@1525-1565nm(dB)	≤2.8	≤4.4	≤5.8	≤7.2	≤8.4
Polarization mode dispersion(ps)	≤0.7	≤0.8	≤0.9	≤1.0	≤1.1
Polarization mode dispersion (typical)(ps)	0,2	0,3	0,4	0,5	0.6
Polarization dependent loss(dB)	≤0.1.				
Brillouin scattering threshold(dBm)	Minimum value: 6.				
Nonlinear system(n2/Aeff)	Maximum value: 1.4*10-9.				
Effective area(Aeff)	Minimum value: 20.				
Network management mode	CLI, NetRiver, WEB.				
Product dimension	177 (W)*20(H)*225(D)(mm).				
Environmental requirements	Working temperature		-10°C ~ 70°C		
	Storage temperature		-40°C ~ 80°C		
	Relative humidity		5% ~ 95% no condensation		
Safety and EMC	Compliance with FCC, UL, CE, TUV, CSA standards.				
Power consumption	<2W.				

## Networking Applications

The products dispersion compensation equipment is widely used to solve the problem of distance limitation of long-distance transmission of optical communication due to dispersion and nonlinear distortion. The device is connected in series on the optical communication line, and is completely transparent to the service, and the amplifier can be placed according to the needs of the optical communication system.

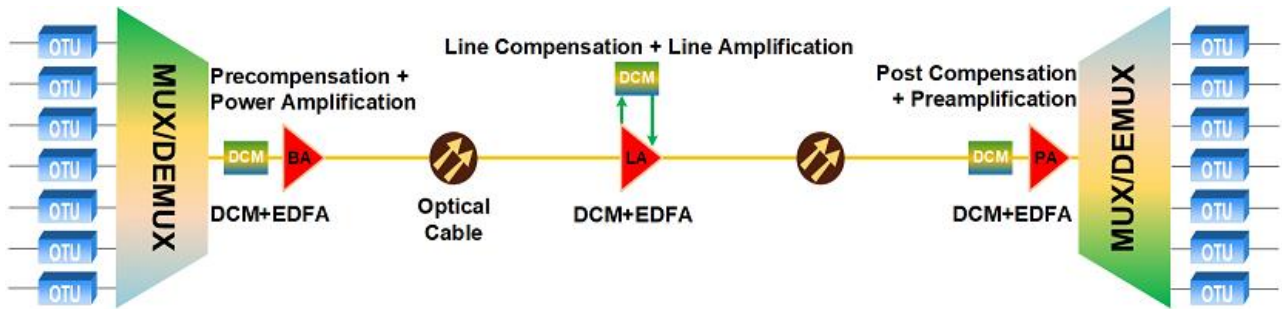


Figure: Dispersion Compensation Application