

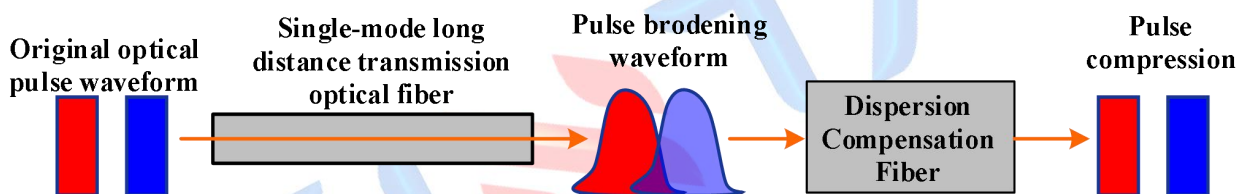
## 40km Dispersion Compensation Fiber

In optical fiber communications, *dispersion compensation modules* (DCM) (also called *dispersion compensation units*, DCU) can be used for compensating the chromatic dispersion of, e.g., a long span of transmission fiber. Typically, such a module provides a fixed amount of dispersion (e.g. normal dispersion in the 1.6- $\mu\text{m}$  spectral region), although tunable dispersion modules are also available. A module can easily be inserted into a fiber-optic link because it has fiber connectors for the input and output. The insertion losses may be compensated with a fiber amplifier, e.g. an erbium-doped fiber amplifier in a 1.5- $\mu\text{m}$  telecom system. A dispersion-compensating module is often placed between two fiber amplifiers.

### Dispersion Compensation Principle

Dispersion is one of the transmission properties of the optical fiber, and the optical pulse signal will be broadened in time after transmission in the optical fiber for a distance, which produces inter-symbol interference, thus increasing the error rate and affecting the quality of communication.

- The higher the data rate is, more easily the inter-symbol interference will present
- The longer the transmission distance is, more easily the inter-symbol interference will present



### Product Feature

- 100% slope compensation of G.652 fiber in C-band ( Typical )
- Low insertion loss
- Low polarization mode dispersion
- Wide band dispersion compensation
- Compensation up to 40 km
- Completely passive—no powering utilized
- Telcordia GR-2854-CORE, ROHS compliant

### Product Specification

Product Model	DCF40A
Equivalent G.652 compensation length	40km
1545nm wavelength dispersion(ps/nm)	-670±30
1545nm wavelength relative dispersion slope	0.004±20%(nm-1)
Insertion loss	≤4.8 dB
Polarization mode dispersion	≤0.9 ps
Nominal single-wave input optical power	≤0 dBm
Optical interface	All interfaces are LC type
Typical power consumption	0W (passive components)
MTBF	> 200000 hours
Occupied slot number	2 slots (dispersion compensation board over 40km need to be configured individually with the DCF passive frame)