RightWave® Dispersion Compensating Modules Overview

ofs
Leading Optical Innovations

Specification Sheet

SPECIALTY PHOTONICS DIVISION

Description

OFS RightWave Dispersion Compensating Modules cover a wide range of applications over a broad wavelength spectrum. Dispersion compensating modules are offered for all common transmission fibers, operating in C- or L-band.

RightWave Dispersion Compensating Modules offer superior PMD performance and excellent slope matching for any transmission fiber type, operating in any band.

The modules are based entirely on mature and reliable single mode optical fiber technology.

OFS RightWave Dispersion Compensating Modules are available with any dispersion value required from -10 to -2000 ps/nm in either C- or L-band.

Applications

- Ultra Long Haul
- DWDM
- Metro networks

Dimensions

In box: 224 x 238 x 45 mm

On spool: Various dimensions

Connectors: As requested

Optical Specifications

RightWave Dispersion Compensating Module solutions for different transmission fibers.

Specifications

Transmission Fiber	Corresponding Module	Band[1]	RDS[2] [nm^{-1}]	DSCR[3] [%]
Standard SMF	DK-C	C-band	0.0023	65
	WBDK-C & EWBDK-C			100
	WBDK-L & EWBDK-L	L-band		100
	EWBDK-CL	C+L		100
TrueWave® RS	HSDK-C	C-band	0.0065	65
	EHSDK-C		0.01	100
	CSDK-C			60-100
	HSDK-L	L-band	0.007	100
TrueWave® *REACH*	REACH DK-CL	C+L		100
TeraLight	HSDK-C	C-band	0.0065	90
	HSDK-L	L-band	0.007	120
LEAF	EHSDK-C	C-band	0.01	50
	CSDK-C			60-100
	UHSDK-C[4]		0.02	100
	EHSDK-L	L-band	0.0095	85
Dispersion trimming	DK+	S,C,L	0.0035	

[1] C-band is defined as 1530-1565 nm, L-band is defined as 1570-1605 nm
[2] RDS is defined as the dispersion slope divided by the dispersion. [Please refer to next page]
[3] DSCR is Dispersion Slope Compensation Ratio. DSCR values are calculated based on the RDS data
[4] Pre-introduction

Relative Dispersion Slope (RDS)

To achieve dispersion compensation at a specific wavelength the following equation must be satisfied:

$$L_{SMF} \cdot D_{SMF} + L_{DCF} \cdot D_{DCF} = 0$$

L_{SMF} is the length of the conventional single mode fiber, D_{SMF} is the total dispersion of the single mode fiber,L_{DCF} is the length of the dispersion compensating fiber and D_{DCF} is the total dispersion of the dispersion compensating fiber.

To achieve dispersion slope compensation the following equation must be satisfied:

$$L_{SMF} \cdot S_{SMF} + L_{DCF} \cdot S_{DCF} = 0$$

S_{SMF} is the total dispersion slope of the conventional single mode fiber and S_{DCF} is the total dispersion slope of the dispersion compensating fiber.

Combining the two equations and thereby getting both dispersion - and dispersion slope compensation yields:

$$RDS_{DCF} = S_{DCF}/D_{DCF} = S_{SMF}/D_{SMF}$$

The Dispersion Slope Compensation Ratio, DSCR is defined as:

$$DSCR = RDS_{DCF}/RDS_{SMF}$$

Features

- Slope compensation of any transmission fiber operating in C- or L-band
- Low PMD
- Customer specified dispersion
- High reliability
- Robust and compact package
- No MPI due to higher order modes
- Available with specifications of Raman-related optical parameters
- Available with customer specified insertion loss and attenuators to provide fixed insertion loss

Related Product Data Sheets

Dispersion Compensating Modules for G.652

- DK-C
- WBCK-C
- EWBDK-C
- EWBDK-L
- EWBDK-CL

Dispersion Compensating Modules for G.655

- HSDK-C
- HSDK-L
- EHSDK-C
- EHSDK-L
- REACH DK-CL
- CSDK
- UHSDK-C

Positive Dispersion Compensating Moudules

- DK+

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