



Specialty Fiber



Issue date: 12/09
Supersedes: 06/09

Product Type: Positive Dispersion Compensation Module of Single-Mode Fiber

For the Telecommunication industry

- Chromatic Dispersion Compensation in Telecommunications networks



Value Innovation is a way of looking at the world. How we can help our customers do more, make more, save more, achieve more.



Dispersion Compensation Module for G.652 type of SMF in C+Band

Draka's Positive Dispersion Compensating Modules are based on Positive Dispersion Compensating fibers developed by Draka Communications, using proprietary processes. Thanks to its more than ten-year long experience, Draka Communications is able to accurately manufacture complex index profile shapes that have the best compromise between Insertion Loss, Wavelength Dependent Loss, and Polarization Mode Dispersion over the all extended C+band from 1529 to 1569 nm.

Package and connectors

Our Positive Dispersion Compensation Modules standard dimensions are:

3 to 15 km compensation: 224 x 238 x 45 mm³

20 to 40 km compensation: 224 x 238 x 94.5 mm³

50 to 80 km compensation: 224 x 238 x 144.5 mm³

The standard modules are delivered with input and output MU/SPC connectors, other connector types are available on request.

Draka Communications DC Modules comply with or exceed the following requirements/directives: Telcordia GR-2854-CORE, EC 2002/96/EC (WEEE directive), EC 2002/95/EC (RoHS directive).

Features	Benefits
Low insertion loss	Increased optical signal-to-noise ratio margins
Low polarization mode dispersion	Reduced signal spreading and distortion due to polarization effects
Low residual dispersion	All WDM channels experience the same, optimized dispersion management in the C ⁺ -Band

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Common Specifications

The following parameters are applicable to all the Positive Dispersion Compensating module series whatever the length of fiber to compensate. These parameters are guaranteed during 20 years operating lifetime and over the full range of the operating conditions. These parameters are guaranteed over the whole C+ band.

Polarization Dependent Loss		Max. Value
Polarization Dependent Loss	Over all the band	0.1 dB
Return Loss		Min. Value
Return Loss	Over all the band	27

Key Optical Specifications

The following parameters depend on the module's size. These parameters are guaranteed during 20 years operating life and over the full operating conditions. Other lengths are available on request.

Length (km)	Dispersion (ps/nm)		
	1530 nm	1550 nm	1569 nm
3	47 ± 3	50 ± 3	53 ± 3
5	78 ± 4	84 ± 4	89 ± 4
10	156 ± 5	167 ± 5	178 ± 5
15	234 ± 7	251 ± 7	256 ± 7
20	312 ± 10	335 ± 10	356 ± 10
25	390 ± 12	418 ± 12	446 ± 12
30	467 ± 15	502 ± 15	535 ± 15
40	623 ± 20	669 ± 20	713 ± 20
50	779 ± 25	837 ± 25	891 ± 25
60	935 ± 30	1004 ± 30	1069 ± 30
70	1091 ± 35	1171 ± 35	1247 ± 35
80	1246 ± 40	1338 ± 40	1426 ± 40

Length (km)	Insertion Loss over the whole C+Band (dB)	
	Typical	Max.
3	0.9	1.2
5	1.3	1.7
10	2.3	2.8
15	3.3	3.9
20	4.3	5.1
25	5.3	6.2
30	6.3	7.3
40	8.4	9.6
50	10.4	11.9
60	12.4	14.1
70	14.4	16.4
80	16.4	18.7

Key Optical Specifications

Length (km)	Wavelength Dependent Loss (dB)	
	Typical	Max.
3	0.027	0.10
5	0.040	0.10
10	0.070	0.10
15	0.110	0.15
20	0.140	0.20
25	0.180	0.25
30	0.210	0.30
40	0.280	0.40
50	0.350	0.50
60	0.420	0.60
70	0.490	0.70
80	0.560	0.80

Length (km)	Polarization Mode Dispersion (ps)		Fiber effective area (µm²)
	Typical	Max.	
3	0.17	0.38	80
5	0.22	0.49	80
10	0.31	0.69	80
15	0.38	0.85	80
20	0.44	0.98	80
25	0.19	1.10	80
30	0.54	1.20	80
40	0.62	1.39	80
50	0.70	1.55	80
60	0.76	1.70	80
70	0.83	1.84	80
80	0.88	1.96	80

Environmental Specifications

Operating	Min. Value	Max. Value
Case Temperature	- 5°C	+ 70°C
Relative humidity, non-condensing 50% RH max. at > 45°C	5 %	95 %
Optical power handling	+ 15 dBm	
Storage and transportation	Min. Value	Max. Value
Temperature	- 40°C	+ 85°C
Relative humidity, non-condensing 50% RH max. at > 45°C	5 %	100 %

How can we be of service to you?

Value Innovation is a way of looking at the world. How can we help our customers do more, make more, save more, achieve more?

Take DrakaElite™. Based on our proprietary manufacturing process and our control of all technological building blocks, we offer an extensive portfolio of specialized optical fibers that have been designed, developed, manufactured

and tested for every environment. Whether you want to guide, amplify, transmit, process, control or sense light, Draka has the fiber you need, whatever your environment. And if for some reason we don't have exactly what you need, well, we'll just make it.

That's Value Innovation in action.

Draka Communications

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The Draka Communications policy of continuous improvement may cause in changed specifications without prior notice