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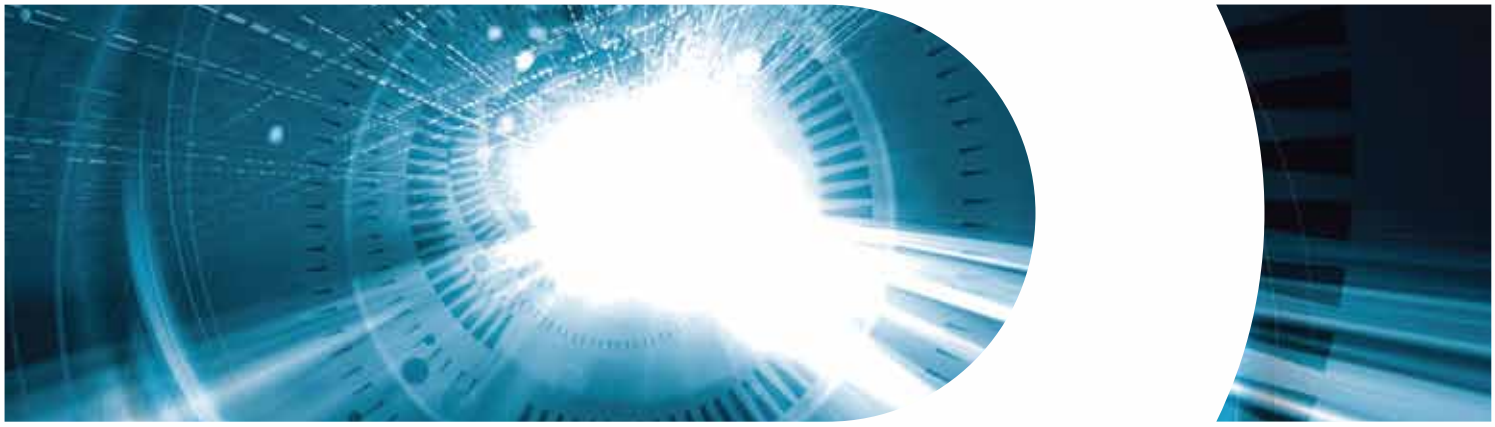

Dispersion Compensation Modules

KeyFeatures

- Dispersion compensation for ITU-T G.655 fiber
- Wide band slope dispersion compensation
- Multiple slope compensation values available in the C & L band
- Low loss
- Low PDL
- High FOM (Figure of Merit)

Applications

- High bit rate systems
- Long Haul and Ultra Long Haul networks
- DWDM transmission

For moreInfo

Please contact us at:
North America: **514.748.4848**
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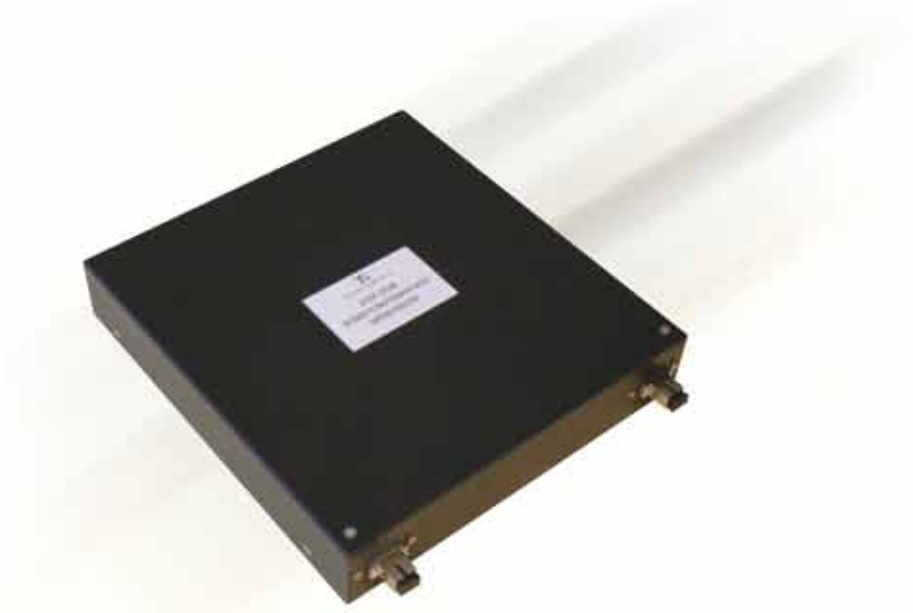
or via e-mail at **sales@3spgroup.com**

2005 DCM

Wide Band Dispersion Compensation Modules Non-zero Dispersion Shifted Fiber

The 2005 DCM product family from 3SPGroup provides compensation for the chromatic dispersion which is generated when a signal propagates along non-zero dispersion shifted single-mode fibers (ITU-T G.655).
As signal properties are restored when it travels through the dispersion compensation module it becomes possible to extend transmission lengths in high bit rate DWDM systems.
Modules are built with a negative dispersion fiber; they are proposed for a variety of slope compensation levels in the C and L bands to optimize transmission performance on market available fibers.
Customized models are available upon request.
This product has undergone a dedicated qualification program.



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2005 DCM

Wide Band Dispersion Compensation Modules Non-zero Dispersion Shifted Fiber

TECHNICAL SPECIFICATIONS*

Parameters	Symbol	Min	Typ	Max	Unit
Environmental					
Operating temperature	T_{op}	-5	-	+70	°C
Storage temperature	T_{sto}	-40	-	+75	°C
Optical					
Operating wavelengths					
• C band	λ_{op}	1525	-	1565	nm
• L band		1570		1610	
SBS threshold	P_{SBS}	6	-	-	dBm

TYPE 1 COMPENSATION

Compensation for C-band					Unit
Compensation distance	20	40	60	80	km
Dispersion @1550nm	-90 ± 3	-180 ± 6	-270 ± 9	-360 ± 11	ps/nm
Residual dispersion slope @1550nm	0.020 ± 20%				nm^{-1}
Insertion loss @1550nm	≤3.0	≤3.8	≤4.5	≤5.3	dB
Polarization dependant loss - PDL	≤0.15				dB_{p-p}
PMD (1)	≤0.4	≤0.5	≤0.5	≤0.6	ps
Non linear coefficient - n_2 / A_{eff}	2.2×10^{-9} typical - 2.8×10^{-9} max				1/W
Fiber effective area @1550nm - A_{eff}	11 min - 13 typical				m^2

Compensation for L-band					Unit
Compensation distance	20	40	60	80	km
Dispersion @1590nm	-160 ± 5	-320 ± 10	-480 ± 15	-640 ± 20	ps/nm
Residual dispersion slope @1590nm	0.011 ± 20%				nm^{-1}
Insertion loss @1590nm	≤3.3	≤4.6	≤5.8	≤7.1	dB
Polarization dependant loss - PDL	≤0.10				dB_{p-p}
PMD (1)	≤0.4	≤0.6	≤0.7	≤0.7	ps
Non linear coefficient - n_2 / A_{eff}	1.6×10^{-9} typical - 2.1×10^{-9} max				1/W
Fiber effective area @1590nm - A_{eff}	13 min - 16 typical				m^2

(1) PMD is an averaged value over the specified wavelength range for each band using the Jones Matrix method

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2005 DCM

Wide Band Dispersion Compensation Modules Non-zero Dispersion Shifted Fiber

TYPE 2 COMPENSATION

Compensation for C-band					**Unit**
Compensation distance	20	40	60	80	km
Dispersion @1550nm	-160 ± 5	-320 ± 10	-480 ± 15	-640 ± 20	ps/nm
Residual dispersion slope @1550nm	0.0065 ± 20%				nm^{-1}
Insertion loss @1550nm	≤2.9	≤3.8	≤4.7	≤5.7	dB
Polarization dependant loss - PDL	≤0.10				dB_{p-p}
PMD (1)	≤0.4	≤0.6	≤0.6	≤0.7	ps
Non linear coefficient - n_2 / A_{eff}	1.5×10^{-9} typical - 1.9×10^{-9} max				1/W
Fiber effective area @1550nm - A_{eff}	15 min - 17 typical				m^2

Compensation for L-band					**Unit**
Compensation distance	20	40	60	80	km
Dispersion @1590nm	-200 ± 6	-400 ± 12	-600 ± 18	-800 ± 24	ps/nm
Residual dispersion slope @1590nm	0.0052 ± 20%				nm^{-1}
Insertion loss @1590nm	≤3.1	≤4.2	≤5.3	≤6.4	dB
Polarization dependant loss - PDL	≤0.10				dB_{p-p}
PMD (1)	≤0.5	≤0.6	≤0.7	≤0.8	ps
Non linear coefficient - n_2 / A_{eff}	1.4×10^{-9} typical - 1.9×10^{-9} max				1/W
Fiber effective area @1590nm - A_{eff}	15 min - 18 typical				m^2

(1) PMD is an averaged value over the specified wavelength range for each band using the Jones Matrix method

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2005 DCM

Wide Band Dispersion Compensation Modules Non-zero Dispersion Shifted Fiber

TYPE 3 COMPENSATION

Compensation for C-band					**Unit**
Compensation distance	20	40	60	80	km
Dispersion @1550nm	-90 ± 3	-180 ± 6	-270 ± 9	-360 ± 11	ps/nm
Residual dispersion slope @1550nm	0.010 ± 20%				nm^{-1}
Insertion loss @1550nm	≤2.6	≤3.1	≤3.7	≤4.3	dB
Polarization dependant loss - PDL	≤0.10				dB_{p-p}
PMD (1)	≤0.4	≤0.5	≤0.5	≤0.6	ps
Non linear coefficient - n_2 / A_{eff}	1.5×10^{-9} typical - 1.9×10^{-9} max				1/W
Fiber effective area @1550nm - A_{eff}	15 min - 17 typical				m^2

Compensation for L-band					**Unit**
Compensation distance	20	40	60	80	km
Dispersion @1590nm	-126 ± 4	-252 ± 8	-378 ± 12	-504 ± 16	ps/nm
Residual dispersion slope @1590nm	0.007 ± 20%				nm^{-1}
Insertion loss @1590nm	≤2.8	≤3.6	≤4.4	≤5.2	dB
Polarization dependant loss - PDL	≤0.10				dB_{p-p}
PMD (1)	≤0.4	≤0.5	≤0.6	≤0.7	ps
Non linear coefficient - n_2 / A_{eff}	1.5×10^{-9} typical - 1.9×10^{-9} max				1/W
Fiber effective area @1590nm - A_{eff}	15 min - 17 typical				m^2

(1) PMD is an averaged value over the specified wavelength range for each band using the Jones Matrix method

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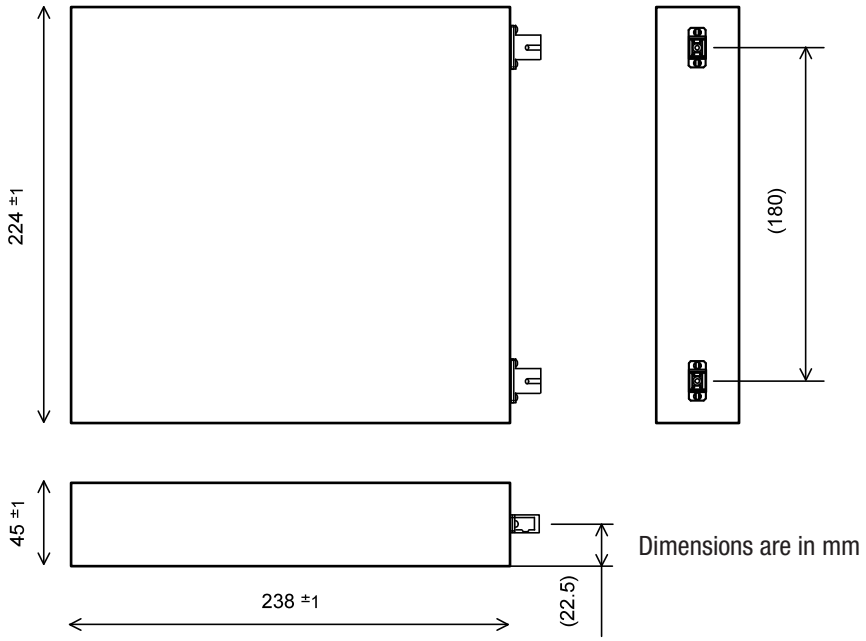
2005 DCM

Wide Band Dispersion Compensation Modules Non-zero Dispersion Shifted Fiber

MECHANICAL DETAILS
ADAPTOR TYPE CASE



OPTION - CASE WITH CONNECTORIZED PIGTAIL

Fiber type	Conventional SMF
Pigtail length	1m
Cable diameter	2mm
Connector type	FC, SC, LC, MU
Connector polish	SPC, APC

3CND5*y t* N *uuuu vvv w x z*

- ***y*** — Compensating slope: 1 : type 1; 2 : type 2; 3 : type 3
- ***t*** — Compensating band: C : C band; L : L band
- ***uuuu*** — Dispersion (ps/nm)
- ***vvv*** — To be defined upon request
- ***w*** — Connecting interface: A : Adaptor; P : Pigtail with Connector
- ***x*** — Connector / Adaptor type: 0 : FC; 1 : SC; 2 : LC; 3 : MU
- ***z*** — Connector polish: 1 : SPC; 2 : UPC; 3 : APC

Revised March 2012

ORDERING INFO

Please contact your Sales Manager. 3SPGroup can also develop custom products to meet a wide range of technical requirements.

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