DMR– DISPERSION MANAGEMENT REFLECTOR FOR FIBER LASERS

The PowerSpectrum™-DMR allows tailoring of pulse duration in passively mode locked ultrafast fiber lasers.

Features

- Broad wavelength range
- Precise control over β_2 and β_3
- Customizable parameters
- Different packaging options (recoated or loose tube)
- Very low dispersion rate available

Benefits

- Alignment free
- Cost effective
- Compact

TeraXion's DMRs are all-fiber, FBG-based chromatic dispersion management devices that can provide either anomalous or normal dispersion at any wavelength.

Used as the output coupler of a mode locked ultrafast laser, a DMR tailors the overall chromatic dispersion within the laser cavity, allowing control over the mode of operation of the laser and the output pulse duration.

Due to its band pass spectral response, a DMR also improves the wavelength stability and minimizes the power variations of the ultrafast laser output.

![TeraXion logo]

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PWS-DMR Standard Configuration Specifications
Stock Items

Parameters	Specifications		Units
Center Wavelength (λ_0) @ Room T° [1] (Slow Axis)	1030 ± 3		nm
Reflection Bandwidth @ -3 dB FWHM [2]	20 ± 1	10 ± 1	nm
Peak Reflectivity	> 12.0	> 25.0	%
D_2 [3]	+ 0.20	+ 0.42	ps/nm
D_3 [3]	0	0	ps/nm^2
Spectral Shape	Gaussian		
Wavelength Referenced to	Air		
Connectors Type	None		
Fiber Type	PM 980		
Package Type	UV Cured Acrylate		
Pigtails Length (On Each Side)	≥ 1		m

(1): Room temperature (20-23°C)

(2): Short wavelengths reflected first

(3): The group delay function is: GD = D_1 + $D_2(\lambda-\lambda_0)$ + $D_3(\lambda-\lambda_0)^2$

PWR-DMR Customizable Specifications

Parameters	Specifications	Units
Wavelength Range (Complete Coverage)	800-2400	nm
Bandwidth	0.015 to 100	nm
Dispersion Rate	0.01 to 2000	ps^2
High Order Dispersion Management	β_2 and β_3	
Reflectivity	Up to 99.0	%
Fiber Type	SM [1], PM [2] and LMA [3]	
Package	Recoated and Loose Tube	

(1): Single Mode fiber
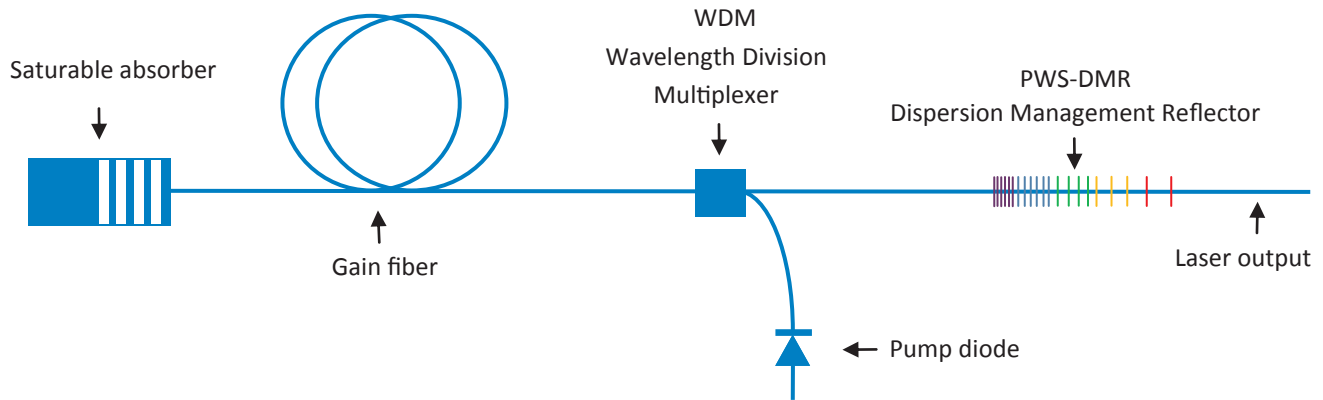
(2): Polarisation Maintaining fiber

(3): Large Mode Area fiber

PWS-DMR Please Select your Parameters when Ordering Customized Items
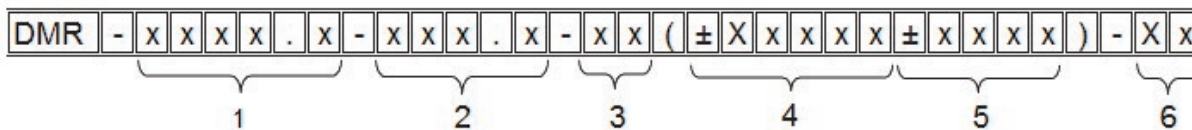
1 = Wavelength
xxxx.x (nm)

2 = Bandwidth @ -3 dB
xxx.x (nm)

3 = Reflectivity
xx (%)

4 = $\pm D_2$, $\pm \beta_2$
$\pm D_2$ = Dxxxx (ps/nm)
$\pm \beta_2$ = βxxxx (ps²)

5 = $\pm D_3$, $\pm \beta_3$
$\pm D_3$ = xxxx (ps/nm²)
$\pm \beta_3$ = xxxx (ps³)

6 = Fiber Type
P1 = Polarization Maintaining (PM)
P2 = PM with Cladding Mode Suppression
S1 = Single Mode Non-PM (SM)
S2 = CMS Non-PM (SM)

Ultrafast Oscillator

Saturable absorber

Gain fiber

WDM
Wavelength Division
Multiplexer

PWS-DMR
Dispersion Management Reflector

Laser output

Pump diode

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