

PowerSpectrum™

CM-V – Chirped Module with VBG Compressor for Ultrafast Laser

45 ps/nm Configuration : CM- 1030V-400[16F-10.9(-43.6)]-M1-OP2-OT1

Overview

The PowerSpectrum™ - Chirped Module for Ultrafast Laser combines TeraXion's Tunable Pulse Stretcher and a VBG compressor. Matched in house, the pair offers 45 ps/nm of stretching factor and the possibility to achieve a compressed pulse duration of < 400 fs. It is the ideal solution for a robust, compact and cost-effective chirped-pulse amplified (CPA) femtosecond laser, no matter the gain medium.

System Parameters

Center Wavelength	Slow Axis	1030	nm
Minimum recompressed pulse duration ¹	<	400	fs
Beam Quality M2	<	1.35	
TPSR nominal dispersion		-43.6	ps/nm
VBG nominal dispersion		45	ps/nm
Total Stretching Window ²		500	ps

1 : Depends on pulse bandwidth

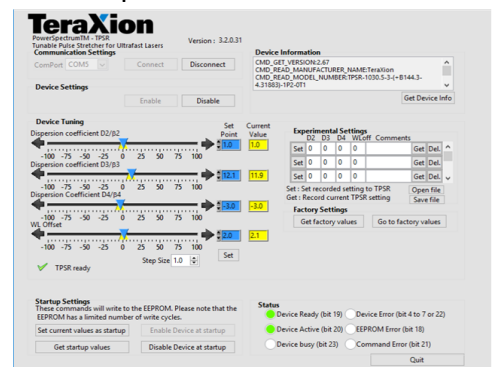
2 : Limited by VBG length

PWS—Tunable Pulse Stretcher Optical Parameters

Reflectivity	>	70	%
Spectral Bandwidth (FWHM)		16	nm
Tolerance on Spectral Bandwidth	+/-	1	nm
Full D ₂ Tuning Range	≥	1.35	ps/nm
Full D ₃ Tuning Range	≥	0.006	ps/nm ²
Fiber Type		PMCMS	
Pigtail length	>	1	m
Connector Type		None	
Module Dimensions (without cable)		14 x 22 x 130	mm
Supply Voltage		5	V
Power Consumption		3	W
Control Protocol		I ² C	



The PowerSpectrum™—TPSR



i²C Software Platform

MKT-FSTD-PWS-CM-V01 2020-06-1.1

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OptiGrate—Volume Bragg Grating Parameters

Spectral Bandwidth		10.85	nm
Tolerance on Spectral Bandwidth	+/-	1.1	nm
Diffraction Efficiency	>	85	%
Grating Thickness		50	mm
Tolerance on Grating Thickness	+/-	5	mm
Grating Aperture (clear aperture > 85%)		5 x 5	mm
Assembly Dimensions		55 x 6 x 10	mm
AR Coating Type	High Energy Broadband		

Power and Communication Module (Optional)

Supply Voltage	5	V
Power Consumption	3	W
Control Interface	USB to I ² C	
CableType (included)	DB15 to Hirose	
Module Dimensions (without cable)	55 x 80 x 150	mm



Power and Communication Module

3-Port Optical Circulator (Optional)

Center Wavelength		1030	nm
Insertion Loss (Maximum)	<	3.6	dB/port
Isolation	>	20	dB
Fiber Type		PM980	
Optical Power Handling		50	mW

Ordering information

For orders, questions, specific requirements or to learn more about TeraXion's products, contact us at

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