

# PowerSpectrum™

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

85 ps/nm Configuration : CM- 1030V-700[9F-6-(-83.6)]-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 85 ps/nm of stretching factor and the possibility to achieve a compressed pulse duration of < 700 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 <sup>1</sup>	<	700	fs
Beam Quality M2	<	1.35	
TPSR nominal dispersion		-83.6	ps/nm
VBG nominal dispersion		85	ps/nm
Total Stretching Window <sup>2</sup>		500	ps

1 : Depends on pulse bandwidth

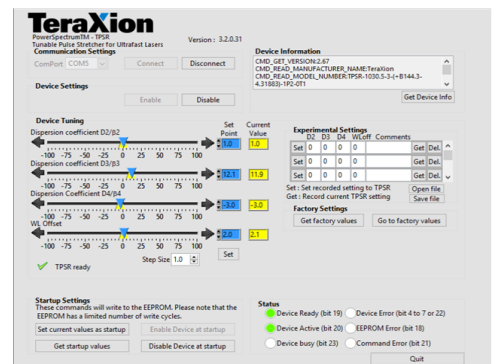
2 : Limited by VBG length

### PWS—Tunable Pulse Stretcher Optical Parameters

Reflectivity	>	70	%
Spectral Bandwidth (FWHM)		9	nm
Tolerance on Spectral Bandwidth	+/-	1	nm
Full D <sub>2</sub> Tuning Range	≥	5.1	ps/nm
Full D <sub>3</sub> Tuning Range	≥	0.4	ps/nm <sup>2</sup>
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 <sup>2</sup> C	



The PowerSpectrum™—TPSR



I<sup>2</sup>C Software Platform

MKT-FSTD-PWS-CM-V02-2020-06-1.1

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## OptiGrate—Volume Bragg Grating Parameters

Spectral Bandwidth		6	nm
Tolerance on Spectral Bandwidth	+/-	0.6	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 <sup>2</sup> 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

[info@teraxion.com](mailto:info@teraxion.com)

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