

TDCMX—COMPACT TUNABLE DISPERSION COMPENSATION MODULE

The ClearSpectrum™ - TDCMX is a compact, fully integrated optical module that provides accurate dynamic control of chromatic dispersion for any channel in high-speed communication networks.



This small form factor tunable dispersion compensator is a fully integrated module with a wide bandwidth and a large dispersion trimming range specifically designed to support any 40 Gb/s modulation format.

TeraXion's well-established expertise in FBG technology translates into the industry's smallest solution for an innovative ready-to-use module integrating a circulator and all the electronics. With its embedded channel selector, the ClearSpectrum™ - TDCMX serves as the ideal option to optimize dispersion in a link for any channels, regardless of the channel plan.

System flexibility is advantageously increased, enabling DWDM systems to reach higher operation speeds with improved design margins.

Features

- Small form factor
- FBG-based TODC compatible
- Channel plan independent
- Large tuning range and wide bandwidth
- I²C control interface

Applications

- Dynamic compensation in 40 Gb/s networks
- Fine dispersion trimming at DWDM terminals
- Dispersion emulation for test & measurement
- Perfect fit for submarine network applications

Specifications

Optical Parameters¹

Dispersion Range	± 900 ps/nm	± 1,200 ps/nm	± 800 ps/nm	± 1,200 ps/nm	± 1,500 ps/nm
Operation Bandwidth	> 35 GHz	> 45 GHz	> 50 GHz	> 30 GHz	> 30 GHz
Channel Grid	continuous	50 GHz	50 GHz	25, 33, 37.5, 50 GHz	50 GHz
Dispersion Resolution	5 ps/nm				
Phase Ripple srđ dev	< 0.08 rad				
Insertion Loss	< 5 dB				
Polarization Dependent Loss	< 0.3 dB				
Polarization Mode Dispersion	< 0.5 ps				
Maximum Input Power	< 27 dBm				

Mechanical Parameters

Operating Temperature	-5 to 65°C
Storage Temperature	-40 to 85°C
Operating Humidity ²	5 to 90% RH
Dimensions	130 x 22 x 14 mm

(1): Specifications can be customized

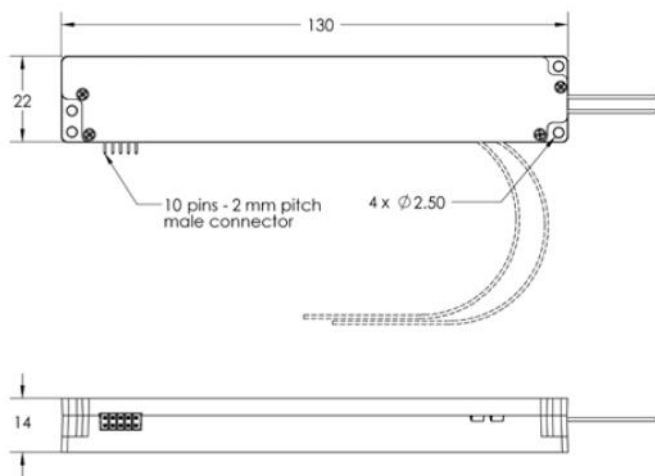
(2): Non-condensing

Electronic Control

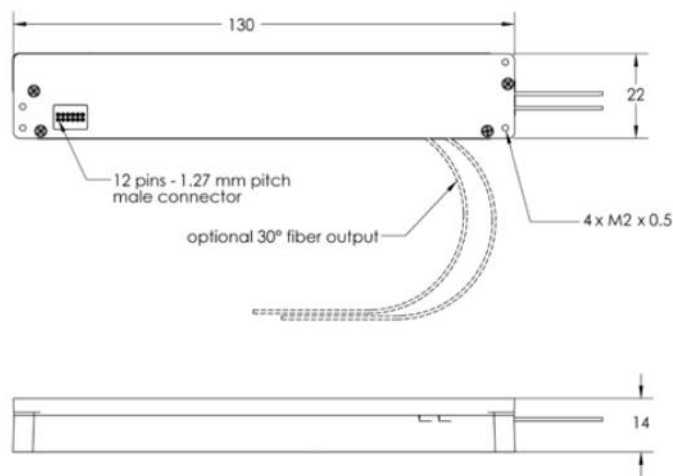
Control interface	I ² C
Voltage	5 V
Power Consumption	Typ. 3 W
Response Time	Typ. 10 s

Dimensions

Side Connector Option



Bottom Connector Option



Ordering information

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

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