TeraXion

ClearSpectrum™
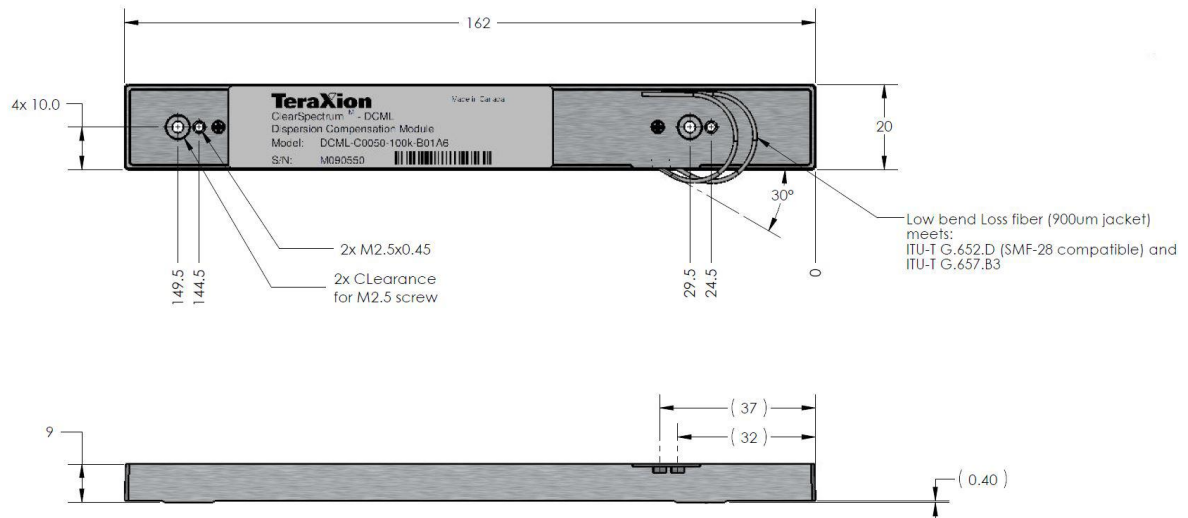# DCML Dispersion Compensation Module

The ClearSpectrum™ DCML is a compact chromatic dispersion compensator that features both low insertion loss and the lowest latency on the market. The channelized nature of the fiber Bragg gratings used in the DCML prevents interchannel and intrachannel nonlinear impairments such as self-phase modulation and four-wave mixing crosstalk. These features enable the DCML to handle high optical input power, giving it the flexibility to be used as a pre-compensator before the fiber link or as a post-compensator at the receiver end.

The DCML provides full C-band coverage on either a 50 or 100 GHz grid, addressing up to 96 channels with a single device on the 50 GHz grid. All of this performance is packed inside a passive, environmentally-rugged package that operates reliably even outside plant.

Top 6 Features

- **Ultra-Low Latency:** The ClearSpectrum™ DCML features a latency of less than 25 ns, a reduction of over 1000x compared to dispersion compensating fiber (DCF), making it the perfect choice for latency-critical networks.

- **Efficient:** The ClearSpectrum™ DCML's channelized FBGs minimize the generation of non-linear effects, such as self-phase modulation and four-wave mixing, enabling the use of higher transmission power levels.

- **Compact:** The ClearSpectrum™ DCML has dimensions of only 162 x 20 x 9 mm, including the optical circulator.

- **Reliable:** The ClearSpectrum™ DCML units are in use within critical networks worldwide and continue to operate after more than 15 years.

- **Passive:** The ClearSpectrum™ DCML is a completely passive, FBG-based device that uses no electrical power.

- **Rugged:** The ClearSpectrum™ DCML's athermal package is certified for operation in temperatures ranging from -5 °C to 70 °C (an extended-range version ranging from -40 °C to 85 °C is available for outside plant applications).

Module Dimensions

General Specifications

Parameters [1]	Configuration 1	Configuration 2	Units
Dispersion compensation level	20 to 100	20 to 200	km
Channel spacing	100	50 and 100	GHz
Operation bandwidth	> 60	> 25 [2]	GHz
Insertion loss	≤ 3.0	≤ 3.0	dB
Latency	< 25	< 25	ns
Operating temperature	-5 to 70		°C
Storage temperature	-40 to 85		°C
RoHS compliant	Yes		

(1)   Specifications can be customized
(2)   OBW ≥ 20 GHz for 200 km

Ordering information

For orders, questions, specific requirements or to learn more about TeraXion's products, contact us at info@teraxion.com

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MKT-FTECH-CS-DCML 4.0