

# MEMS Variable Photonic Time Delay

(patent pending)

## Product Description

The MEMS Series Photonic Time Delay digitally varies the delay time inside a fiber with exceptionally large range (maximum delay) and precision (bit). It selectively routes optical signals through N fiber loops whose lengths increase successively by a power of 2. Since each switching element allows the signal to either pass or bypass a fiber loop, a delay  $T$  may be inserted, which can take any value (in increments of  $\Delta T$ ) up to the maximum value  $T$ . This is achieved using a patent pending MEMS configuration and activated via an electrical control signal. Latching operation preserves the selected optical path after the drive signal has been removed. The device is designed to meet the most demanding switching requirements of ultra-high reliability, vibration insensitivity, and low power consumption. It is a completed module with built-in driver.

## Features

- High Speed
- High Reliability
- Fail-Safe Latching
- Low Insertion Loss
- Low Power Consumption

## Performance Specifications

MEMS Series Photonic Delay Line	Min	Typical	Max	Unit
Wavelength Band	780	1550	2000	nm
Insertion Loss <sup>[1]</sup>		3	4.5	dB
Cross Talk	40	50		dB
Switching Time(fall, rise)		2	10	ms
Delay Time Range	n		$\mu$	s
Polarization Dependent Loss		0.1	0.2	dB
Polarization Mode Dispersion		0.1	0.2	ps
Return Loss	50	55	60	dB
Operating Temperature	-5		70	°C
Optical Power Handling		400	500	mW
Storage Temperature	-40		85	°C
Package Dimension <sup>[1]</sup>		35L x 20W x 8.5H		mm

Notes:

[1]. For 4 bits.

## Applications

- Phase-Array Antennas
- Instrumentation

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## Electrical Driving Requirements

The unit has an electrical driver with USB and RS232 interfaces and Windows™ GUI.

It comes with a wall-plug 5V power supply

## Ordering Information

METD*-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>
	Type	Wavelength	Configuration	Package	Fiber Type	Delay Range	Connector	
	4 Bits = 04 5 Bits = 05 6 Bits = 06 7 Bits = 07 8 Bits = 08 Special=00	1310=3 1550=5 Special=0	Standard=1 Special=0	Standard=1 Special=0	SMF-28=1 Special=0	Bare fiber=1 900µm tube=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0	

\* METD: MEMS Time Delay