

Fiber Optic Delay line Spool

Low optical loss, loss balance, zero dispersion, up to ms long delay



We uniquely produce FSPO Series Fiber Optic Delay Lines featuring low loss, accurate length control, loss compensation, and zero dispersion. Multiple fiber coils are housed in a rack mount enclosure. The fiber is coiled using an advanced fiber winding machine that eliminates internal stress to achieve the lowest loss. The optical loss can be balanced among each fiber loop or compensated with built-in attenuators for short fibers or optical amplifiers for long fibers, respectively. Zero-loss fiber delay lines can be made. Moreover, chromatic dispersion compensation fiber can be used to achieve zero-dispersion fiber optic delay lines. The fiber length thus delays time, is precisely measured and controlled using a special optical interferometer system. The Chromatic dispersion is measured using an Agiltron system. These fiber spools provide precise delay time references for radar calibration applications. They can also be used in site diversity applications when system timing is critical. These spools can be used to mimic existing fiber in the ground as a transparent switch between the local and diverse sites. The FSPO Series Fiber Optic Delay Lines are designed for ease of use to provide unmatched performance for radar testing, signal processing, phased array antennas, and phase noise testing.

Features

- Zero Loss
- Zero Dispersion
- Up To ms Delay

Applications

- Radar System Testing
- Phased Array Antennas
- Signal Processing
- Electronic Warfare (EW) Systems

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	1310		1550	nm
Delay Range	0.01		1000	µs
Delay Accuracy			0.1	ns
Attenuation (uncompensated) ^[1]			0.21	dB/km
Compensated Dispersion ^[1]		0		ps/nm-km
Return Loss	55			dB
Optical Power Handling		500	1	W
Operating Temperature	0		60	°C
Storage Temperature	-40		85	°C
Power Supply	110		240	AVC
Power Consumption			250	W
Size	19" mount rack			

[1] @ 1550nm



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Ordering Information / Part Number

Prefix	Delay(100ns)	Configuration ^[1]	Amplifier ^[2]	Fiber Type	Connector
FSPO-	1ns = A0001 10ns = A0010 100ns = 00001 1µs = 00010 1ms = 10000 Special=00000	Standard=1 Special = 0	No=1 Yes=2 Special = 0	SMF-28 = 1 Dispersion=2 ^[3] Special=0	FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC/APC=7 Special = 0

[1]standard is for one spool. multiple spools can be housed in one box-choose special to provide details

[2]amplifier will be set to compensate the loss to provide zero loss

[3]dispersion fiber will be incorporated to provide near-zero total chromatic dispersion