



35XX Series 280 μ s Max Fiber Optic Delay Lines



Applications

- Radar Testing/Calibration
- Signal Processing
- Phased Array Antennas
- Phase Noise Processing

Features

- Delays Up to 280 microseconds
- Various Form Factors
- Small Size
- Flat RF Amplitude Response and Phase

The 35XX Series Fiber Optic Delay Lines deliver unmatched performance for radar testing, signal processing, phased array antennas and phase noise testing. When used in conjunction with either the 5016A/B/C/D fiber optic transceiver, System 10000 rack-mount transmitters and receivers, or EMCORE flange-mount transmitters and receivers, these rugged devices eliminate many of the problems that are inherent in alternative delay line technologies including acoustic wave devices and coaxial delay lines.



EMCORE's fiber optic delay lines provides bandwidth and insertion loss that are essentially independent of delay and triple transit signals that are immeasurable. In addition to enhancing electrical performance, the delay lines provide several mechanical advantages. EMCORE's technology takes advantage of the rigid, yet flexible properties of fiber optic cable to provide repeatable enhanced phase and group delay characteristics.

EMCORE's 35XX Series Fiber Optic Delay Lines consist of three unique versions:

- 355A - Flange-Mount
- 356A/B - Double-Wide Plug-In, compatible with the System 10000 chassis
- 357A/B/C/D/E - Rack-Mount, which is integrated into the System 10000 chassis

The small size of these components allows for long delays in a compact package with the superior temperature stability of fiber.

35XX Series

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Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Max	Units
Storage Temperature	T _{STG}	Continuous	-40	+85	°C

Optical Specifications

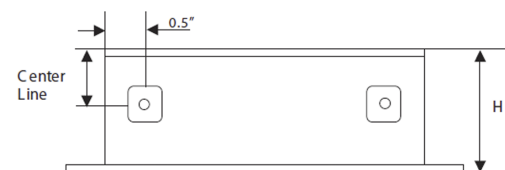
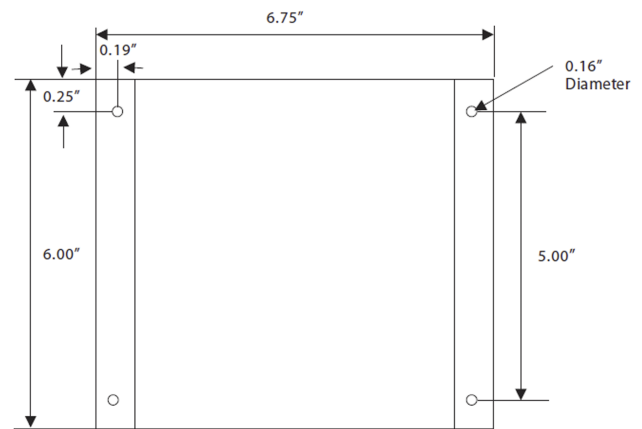
Fiber	Single Mode SMF 28 (9/125)	μm
Time Delay ¹	0.1 to 280	μs
Insertion Loss ²	2 + (Delay Time _(μ-sec) /6.12 _(dB/μ-sec))	dB(RF) max
Relative Delay vs. Temperature	6.5	ppm/°C

Note 1: 4.89 microseconds = 1 km of fiber, 4.89 nanoseconds = 1 m of fiber
 Note 2: Contribution of optical fiber to the RF insertion loss of overall system.
 Note 3: Optical insertion loss based upon fiber distance.

Connector Options

Optical Connector	355A	356A/B	357A/B/C/D/E
-022 1 Meter FC/APC Pigtail	X	X	X

Delay (μ-sec)	Dimension "H"
0.5-35	2.38" / 60.5 mm
35.1-55	3.90" / 99.1 mm
55.1-75	4.75" / 120 mm
75.1-110	6.25" / 158 mm



Ordering Information

Description	355A-XXXX	356A-XXXX	356B-XXXX /XXXX	357A-XXXX	357B-XXXX / XXXX	357C-XXXX / XXXX / XXXX	357D-XXXX / XXXX / XXXX / XXXX	357E-XXXX / XXXX / XXXX / XXXX
Delay Spool 1 ns - 110 μs	X	-	-	X	-	-	-	-
Delay Spool 1 ns - 16 μs	-	X	-	-	-	-	-	-
Dual Delay Spool 1 ns - 8.0 μs	-	-	X	-	-	-	-	-
Delay Spool >15 μs - 280 μs	-	-	-	X	X	X	X	X

Model Number: 35XX-XXXX-XXX

35XX: Package Style 355A, 356A, 356B or 357A/B/C/D/E

-XXXX: Delay time in microseconds (X) 100 (X) 10 (X) 1 (X) 0.1

Example: 85.4 microseconds = 0854

-XXX: Connector Option -020 or -022