

RF/Microwave Delay Line

(Turn-Key solution for test applications)

Product Description

The programable RFDL module is a turn-key solution delivering unmatched performance in delay range, resolution, and reconfiguration speed. It converts an incoming RF signal into an optical signal and transmits through N fiber segments selectively, and re-converts back into an output RF signal with variable time delay. Using optical switches, the time delay is variable and programmable with high resolution of 2^N delay selections. The RFDL system allows for a long delay up to ms in a compact package with the superior temperature stability of fiber. Delay length and link performance requirements can be tailored over a range of performance levels to meet specific requirements. Agiltron offers several choices of non-mechanical switching; ultra-fast nano-second switching; and low loss MEMS switching. Integrated optical amplification compensates optical losses with delay-matching performance.

The RFDL has a wide frequency range from 0.05GHz to 40GHz. The programmable delay module can be controlled directly with TTL, or interfaces with a computer with user-friendly GUI through RS232, RS485, USB, GPIB, or Ethernet RJ45.



Performance Specifications

Microwave Delay Line Module	Min	Typical	Max	Unit
Frequency Range	0.05		40	GHz
Delay Time Range	n		m	s
Delay Accuracy		0.1	0.5	%
RF Input Level		0		dBm
Phase Stability	2			degree
Gain (0 dBm input)	50	55		dB
Noise Figure	-20			dB
RF Connector		3.5		mm
Storage Temperature	-40		85	°C

Note:

Features

- High Resolution
- High Speed
- Large Time Delay Range
- High Reliability
- Low Insertion Loss
- Low Noise

Applications

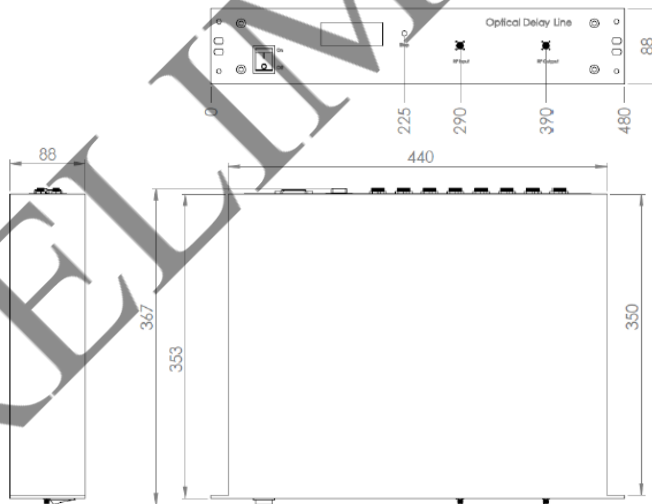
- Phase-Array Antennas
- Instrumentation

Solid State Variable Photonics Time Delay Full System

Electrical Driving Requirements

TTL, USB, RS232, Ethernet with PC GUI

Mechanical Dimensions (mm)



Ordering Information

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	Resolution	Frequency	Switch Speed	Amplification	Delay Accuracy	Delay Range	Interface	Connector	
	04=4 bit 05=5 bit 08=8 bit 09=9 bit 10=10 bit 11=11 bit 12=12 bit 13=13bit 14 15 16 17 20	1=0.01- 0.1GHz 2= 0.1 - 0.5GHz 3=0.1-1GHz 4= 1-3GHz 5 = 5GHz 6 = 10GHz 7 = 20GHz 8= 30GHz 9= 40GHz Special=0	1=CL 2=NS 3=MEMS	1= yes 0=no	1=0.5% 2=1% 3=5% 4=10%	Customer	1=USB 2=GPIB 3=RS232 4=RS485 5=RJ45 Ethernet 6=TTL		