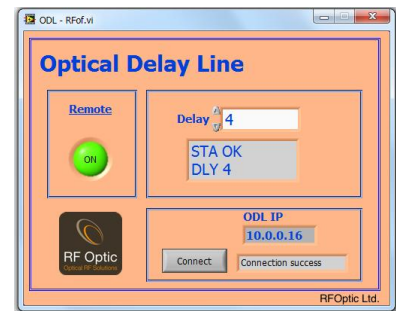




Applications:	Key features:
Radar Calibration & Testing	Delays: 0.1-300 μ sec (fixed), special request >300 usec.
Signal & Phase Noise Processing	Frequency Range: 0.1 to 6 GHz
Extension of radar range site	Delay accuracy: 0.1%
Clutter Canceler	Remote Control: RS-232 or Ethernet
BIT (built-in test)	High Dynamic Range
EW Systems - Jammers	Variety of configurations
Path Delay Simulation	Up to 15 usec can be housed in Mini enclosure

Options:
ODL with 2, 4, up to 8 switchable delays
Delay accuracy of 0.1 % (not less than 25 nsec)
RF Bypass
Dispersion Compensator for long delay line
Various Gain
Control RS-232 or TTL or Ethernet
Full BIT using signal detection at the receiver



RFOptic's optical delay line ODL series provides a high performance solution for testing and calibration of radar systems, or for RF communication. The ODL converts analog RF signals to optical signals and back. The RF input signal is converted into an optical modulated signal, which is then transmitted into a single mode fiber, creating a fixed time delay defined by the fiber length. After passing through the fiber, the optical signal is converted back into an electrical RF signal, which is identical to the input RF signal.

Any fixed time delay between 0.1 and 300 μ sec can be provided to customers. The Optical Delay Line is operated as a standalone unit with no need for any intervention by the operator. It can be also controlled externally from a PC through various communication user interfaces. RFOptic's ODL unit is a compact solution, which provides superb performance including accurate time delay and with an ultra silent operation.

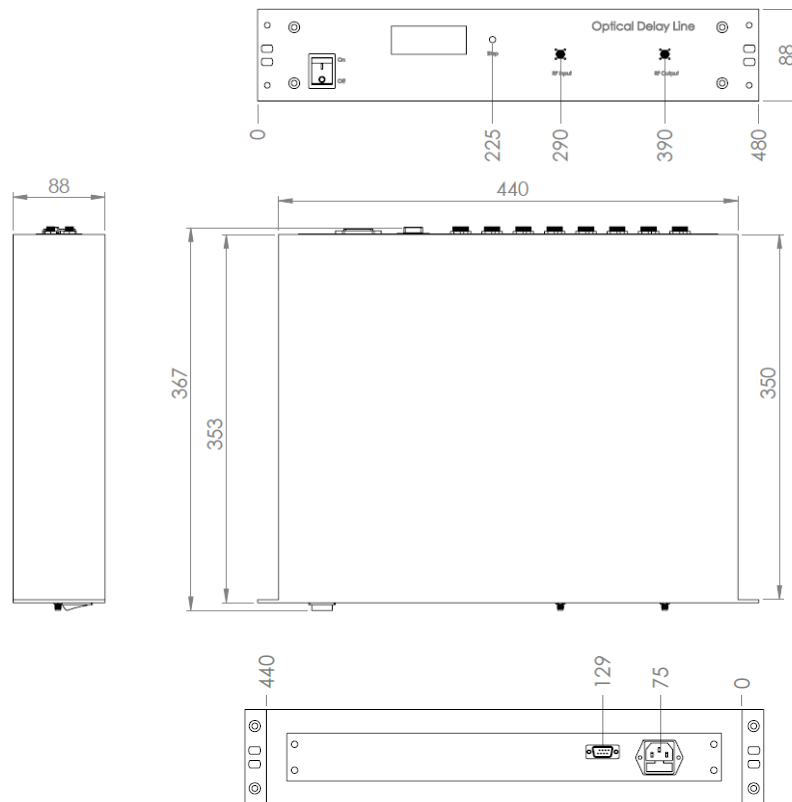
The ODL can be purchased with an integral switch unit supporting up to 8 predefined time delay values in a single ODL unit. For certain applications, RFOptic offers a low cost ODL solution of up to 5GHz based on direct modulation.

Parameter	Unit	Specifications	Note
RF			
Frequency range [1]	GHz	0.1- 6	0.1-3 is also available
Delay time [2,3,4,5]	µsec	0.1-300	pre-fixed delay defined by customer
Delay accuracy [6]	%	1	Minimum accuracy of 25 ns
Delay repeatability	%	<0.01	at +/- 5 °C variations
System RF gain [7,8]	dB	~0	Without the Delay Line loss
Noise Figure at 3GHz [7]	dB	25	Without the Delay Line loss
Group Delay Variation	psec	± 100	
1dB input Compression point	dBm	>0	
Max input RF power	dBm	+10	
Spurious [9]	dBc	<-80	
Phase noise (at 10kHz offset)	dBc/Hz	<-100	
RF Flatness (not including amplifier) [10]	dB	≤± 2.5	
VSWR	-	2:1	
Impedance	Ohm	50	
Mechanical			
1550 nm laser CW optical power	mW	≤ 20	1310 for short delay
Communication [11]	-	RS-232	
RF connectors	-	SMA	N type is available
Main AC supply	VAC	220/110	DC version is available
19" Rack mounting [12]	mm3	440 x 450 x 133	See mechanical drawing
Operating Temperature	°C	-20 ÷ +60	
Storage	°C	(-40) ÷ +85	
<p>(1) Any frequency between 0.1 to 8 GHz.</p> <p>(2) Any fixed delay between 0.1 to 500 µsec is optional.</p> <p>(3) Integrated switching unit allowing choosing between 2 to 8 predefined delay values is optional.</p> <p>(4) RF bypass is optional.</p> <p>(5) Dispersion compensator unit for long delay / high frequency is optional.</p> <p>(6) 0.1% accuracy for long delay line is optional.</p> <p>(7) Not including delay line loss which is about 1dB per 10 µsec delay and optical switches loss.</p>			

The table below describes the typical specifications ODL :

Mechanical Layout: 2U/3U Layout

Note: 3U is similar with 133 mm height.



Comment: An option for up to 8 ports rear panel for external delay line.

