# *Manual Variable Optical Delay Line – VariDelay™ I*

## VDL-001

General Photonics' manual variable optical delay line provides precision optical path variation of more than 18 cm (600 ps). The compact, rugged design makes the device ideal for integration in network equipment, test instruments, and optical coherence tomography (OCT) systems for precision optical path length or timing alignment.


### Specifications

| | |
|---|---|
| Operating Wavelength[2] | SM: 840 ± 50nm, 1060 ±50 nm, 1260-1650 nm<br>PM: 840, 1060, 1310 or 1550 nm ± 50 nm |
| Optical Delay Range[3] | 0 ~ 330 ps (single pass model)<br>0 ~ 600 ps (single pass model)<br>0 ~ 1200 ps (double pass model) |
| Readout Scale Resolution | 0.05 mm |
| Insertion Loss[1] | 1.0 dB nominal (single pass)<br>1.5 dB nominal (double pass) |
| Insertion Loss Variation[1] | ± 0.3 dB over entire range for 330 ps model<br>± 0.5 dB over entire range for 600 ps model<br>± 0.7 dB over entire range for 1200 ps model |
| PDL[1] | 0.1 dB (SM model) |
| Return Loss[1] | 50 dB |
| Extinction Ratio | > 18 dB for PM model |
| Optical Power Handling | 300 mW |
| Operating Temperature | 0°C to 40°C |
| Storage Temperature | −40°C to 60°C |
| Fiber Type | 840nm: HI780 or PM Panda<br>1060nm: HI1060 or PM Panda<br>1310 and/or 1550nm: SMF-28 or PM Panda |
| Dimensions | 330 ps model: 4.2" (L) × 2.1" (W) × 1.0" (H)<br>600 or 1200 ps models: 6.0" (L) × 2.1" (W) × 1.0" (H) |

Notes:
1. Specifications in table apply for a device without connectors, measured over 1310 ± 50 nm or 1550 ± 50 nm at 23±5°C. Some specifications will change for other wavelengths.
2. Other wavelengths available upon request. Contact General Photonics for details.
3. For a double pass device, input and output signals travel on the same pigtail, so a circulator or PBS may be necessary to separate input and output signals for some applications. Double pass not available for 840 or 1060nm.

### Applications:

- Optical coherence tomography (OCT)
- Passive time division multiplexing
- TDM bit alignment
- Fiber interferometers

### Unique Features:

- Space efficient
- Highest delay to length ratio
- Long delay: >600 ps available
- Low insertion loss variation
- Rugged design

### Ordering Information:

VDL– 001– XX – XX – XX – XXX

Wavelength:
84 = 840 nm
10 = 1060 nm
13 = 1310 nm
15 = 1550 nm
35 -= 1310/1550nm

Delay Range:
33 = 330 ps
60 = 600 ps
12 = 1200 ps

Fiber Type:
SS = SM
PP = PM

Connector Type:
FC/PC, FC/APC,
SC/PC, SC/APC or
NC = No Connectors
Others specify

Configuration Notes:
1. For SM pigtails, the default configuration is 3mm jacketed. For PM pigtails, the default configuration is 900μm loose tube jacketed.
2. Wavelength: 35 option (dual-window 1310/1550nm) is available only for SM single-pass devices. PM or double-pass devices are single-window (e.g. 1310 or 1550nm) only.
3. Double-pass only available with SM fiber.
4. Double-pass not available for 840 or 1060nm.

Making Light Work Lighter
General Photonics Corporation

General Photonics Corp.
14351 Pipeline Ave.
Chino, CA 91710

Tel: 909.590.5473
Fax: 909.902.5536

Email:
info@generalphotonics.com

Website:
www.generalphotonics.com

GP-DS-VDL-001-11
12/17/17

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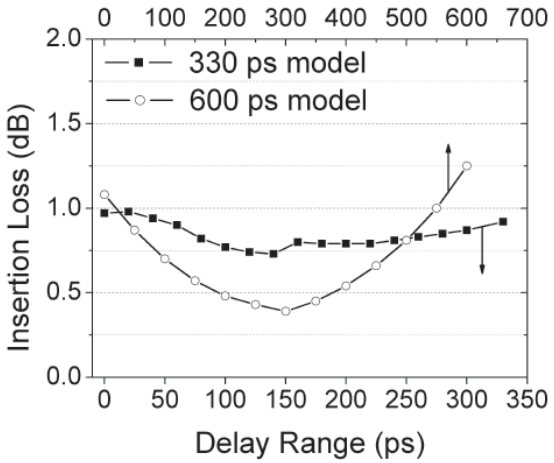
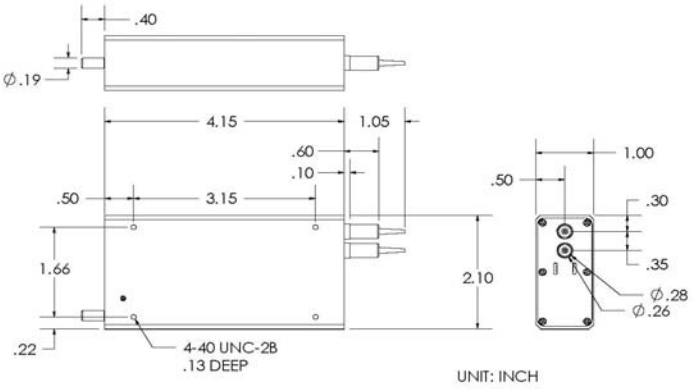
**VDL-001**

## Typical Performance Data

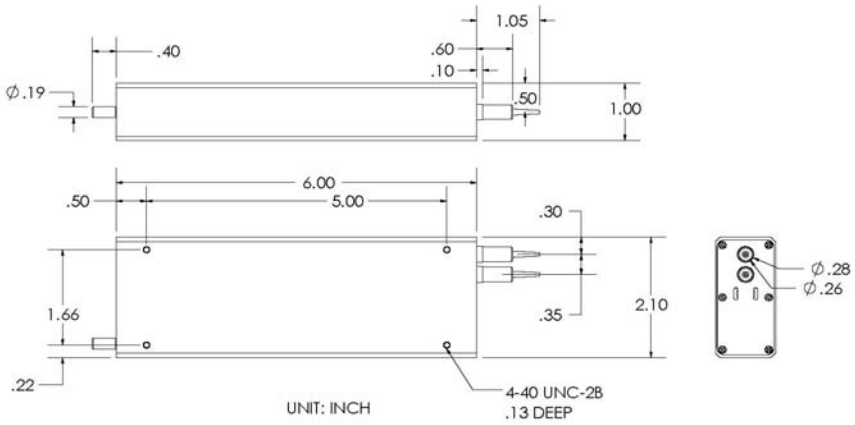



Insertion Loss vs. Optical Delay

## Dimensions




330 ps version




600 ps version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Website:
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