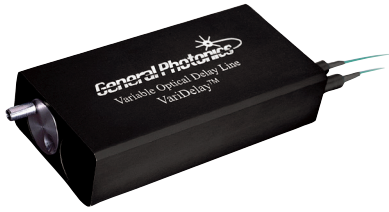


# Manual Variable Optical Delay Line - VariDelay™ I (VDL-001)



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 Range <sup>2</sup>  | SM: 1260 to 1650 nm<br>PM or double-pass: 1310 ± 50 or 1550 ± 50 nm   | 840±50nm or 1060 ± 50nm  |
| Optical Delay Range <sup>3</sup>   | 0 – 330 ps (single-pass model)<br>0 – 600 ps (single-pass model)<br>0 – 1200 ps (double-pass model)                                     | 0 – 330 ps (single-pass model)<br>0 – 600 ps (single-pass model)                         |
| Readout Scale Resolution   | 0.05 mm   |  |
| Insertion Loss <sup>1</sup>  | 1.0 dB nominal (single-pass)<br>1.5 dB nominal (double-pass)  | 1.5 dB nominal (single-pass)   |
| Insertion Loss Variation <sup>1</sup>  | ±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 | ±0.3 dB over entire range for 330 ps model<br>±0.5 dB over entire range for 600 ps model |
| PDL <sup>1</sup>   | 0.1 dB (SM fiber)   | 0.2 dB (SM fiber)  |
| Return Loss <sup>1</sup>   | 50 dB   |  |
| Extinction Ratio   | > 18 dB for PM model  |  |
| Optical Power Handling   | 300 mW min.   |  |
| Operating Temperature  | 0 to 40 °C  |  |
| Storage Temperature  | -40 to 60 °C  |  |
| Fiber Type   | SMF-28 or PM Panda fiber  | HI780 or PM Panda (840 nm)<br>HI1060 or PM Panda (1060 nm)                               |
| 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)                                   |  |
| <b>Notes:</b><br>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.<br>2. Other wavelengths available upon request. Contact General Photonics for details.<br>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. |   |  |

## Features:

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

## Applications:

- Optical Coherence Tomography (OCT) systems
- Passive time division multiplexing
- TDM bit alignment
- Fiber interferometers

## Related Products:

- Motorized Delay Lines (MDL-002, MDL-003)
- Manual Delay Line (VDL-002, VDL-004)
- Components

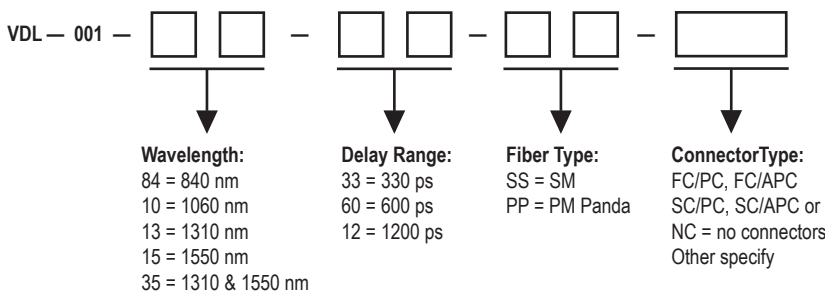
## Tech Info:

- [Optical Coherence Tomography Technologies](#)

## FAQ:

- [Delay Lines](#)

## Ordering Information:



### 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 (330 and 600 ps). PM or double-pass devices are single-window (1310 or 1550nm) only.
3. Double pass only available with SM fiber.
4. Double-pass not available for 840 or 1060nm.

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Typical Performance Data:

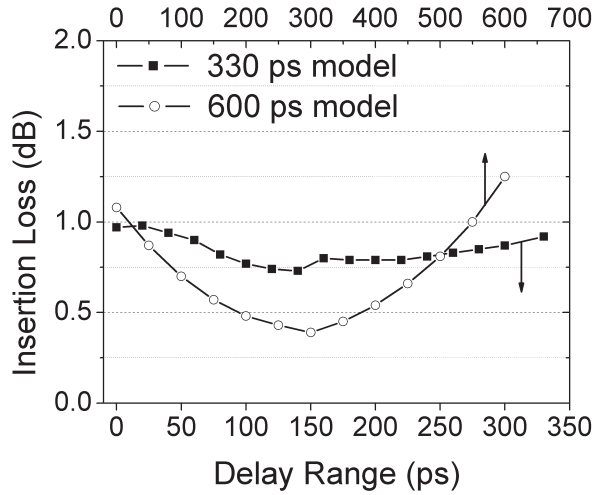
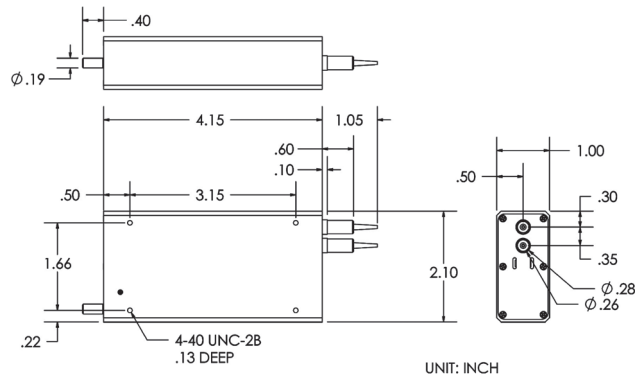
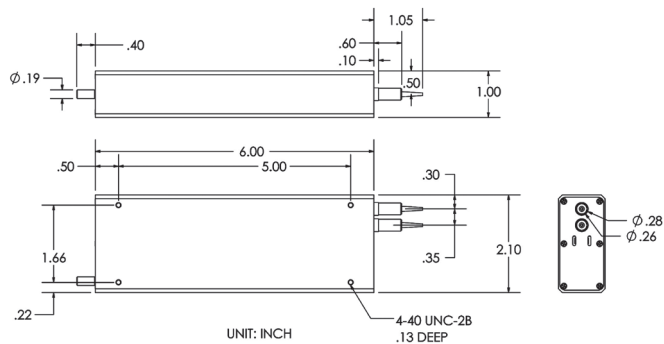


Figure 1. Insertion loss vs. optical delay.

Dimensions (in inches):



330 ps version



600 ps version

Distribution in the UK & Ireland



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