



Motorized Variable Optical Delay Line (MDL Series)

Rev 11E

Motorized Variable Optical Delay Line provides precision optical path length adjustment of up to 500 ps. Driven by a stepping motor, the MDL has a delay resolution about 10 μm (34 fs). In addition, its advanced motion design guarantees longevity for long-term continuous operation. Low insertion loss and high reliability make this device ideal for integration in optical coherence tomography (OCT) systems, network equipment and test instruments for precision optical path length control or timing alignment.

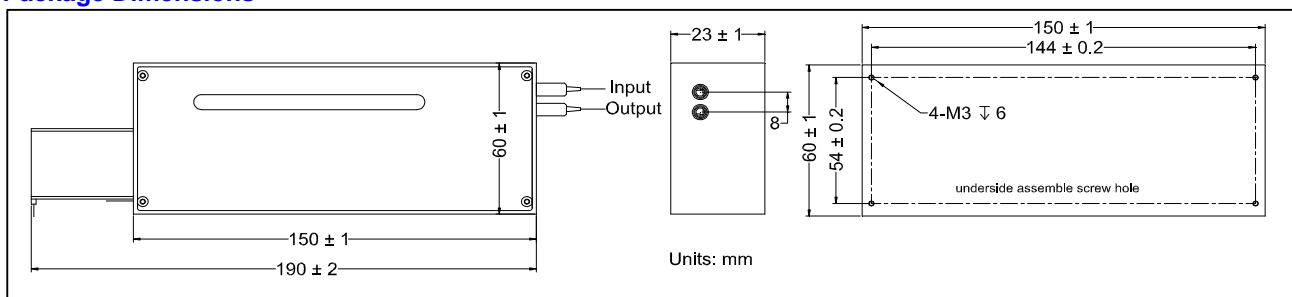
Specifications

| Parameter | Unit | Values |
|---|--------------------|--|
| Center Wavelength (λ_c) | nm | 1060 or 1550 |
| Operation Wavelength | nm | $\lambda_c \pm 40$ |
| Optical Delay Range | ps | 0 - 500 ps continuous |
| Zero Point Delay Offset** | ps | ~440 |
| Optical Delay Resolution | | 10 μm or 34 fs per encoder count |
| Max. Insertion Loss | dB | 1.2 |
| Max. Insertion Loss Variation | dB | 0.5 |
| Max. PDL | dB | 0.1 |
| Min. Extinction Ratio (for PM model) | dB | 18 |
| Min. Return Loss | dB | 50 |
| Max. Optical Power Handling (Continuous Wave) | mW | 300 |
| Electrical Interface | | 2 - phase stepper motor drive signal 2 sensor connections |
| Operating Temperature | $^{\circ}\text{C}$ | 0 to +40 |
| Storage Temperature | $^{\circ}\text{C}$ | -20 to +60 |
| Fiber Type | | Singlemode or PM Panda fiber |
| Dimensions | mm | 60 \times 150 \times 23 |

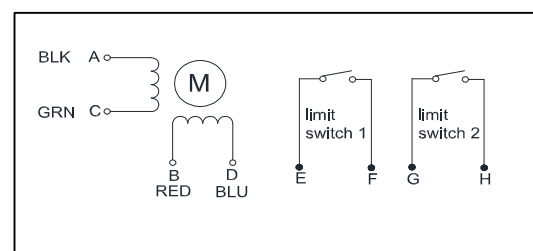
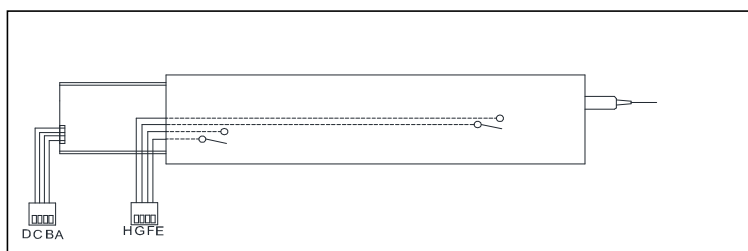
*IL is 0.5 dB higher, RL is 5 dB lower and ER is 2 dB lower for each connector added, measured at center wavelength

**Absolute delay at 0 ps setting measured to the edge of the enclosure (excluding caps, boots, and pigtails).

Package Dimensions



Electrical Interface



Ordering Information

MDL-①①-②②②-③-④-⑤-⑥

①①: Wavelength

06 - 1060 nm

55 - 1550 nm

SS - Specify

②②②: Delay Range

500 - 500 ps

SSS - Specify

③: Connector Type

1 - FC/UPC

2 - FC/APC

3 - SC/UPC

4 - SC/APC

N - None

S - Specify

④: Fiber Jacket

B - 250 µm bare fiber

L - 900 µm loose tube

3 - 3 mm cable

S - Specify

⑤: Fiber Length

1 - 1.0 m

S - Specify

⑥: Fiber Type

M - Singlemode fiber

P - PM fiber