

Motor Driven Variable Optical Delay

(SM, PM, MM, Bidirectional)

Product Description

The Motor Driven Variable Optical Time Delay features fast speed and high accuracy. It consists two collimators and a movable reflector controlled by a precision step motor. Light from an input fiber collimator projects into free space and is collected by an output fiber collimator. The distance the light travels in free space is varied by the movable reflector.

The device is conveniently controlled by a computer via a USB cable interface. A graphic control software is provided.



Performance Specifications

Parameter	Min	Typical	Max	Unit
Operation Central Wavelength	500	1550	2000	nm
Insertion Loss ^{[1][2]}	330ps	1.0	1.5	dB
	660ps	1.0	1.8	
	1200ps	1.5	2.8	
Return Loss ^[2]	55			dB
PDL ^[3]			0.2	dB
Max Switching speed ^[2]	330ps	~67		ps/s
	660ps	~130		
	1200ps	~240		
Polarization Extinction Ratio ^[4]	18	22	25	dB
Optical Power Handling		500 ^[5]		mW
Durability (Life cycle)	10 ⁷			
Operating Temperature	0		70	°C
Storage Temperature	-40		85	°C
Fiber Type	SM, PM, MM			

[1]. Excludes connectors, Measured at 1550 nm

[2]. Tested with SM and PM fiber version only. For MM version, IL highly depends on CPR of light source and delay range, minimum RL 35dB.

[3]. For SMF version

[4]. For PMF version

[5]. High Power version available upon request

Features

- Low Cost
- Low Loss
- Fast
- Wide Range
- High Resolution
- High Reliability
- Easy to Use

Applications

- PMD Compensation
- OCT
- Interferometer
- Spectroscopy
- Lab use

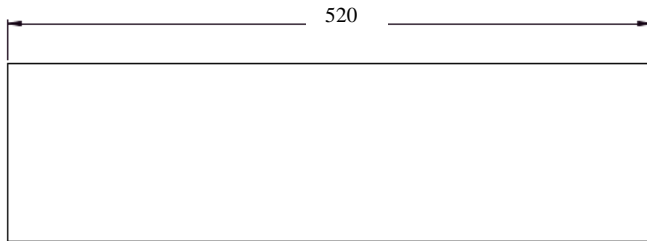
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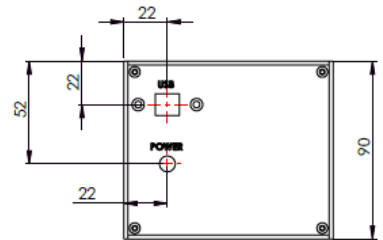
Electrical Driving Requirement

Motorized type has computer controlling kit with USB and RS232 interfaces and Windows™ GUI software.

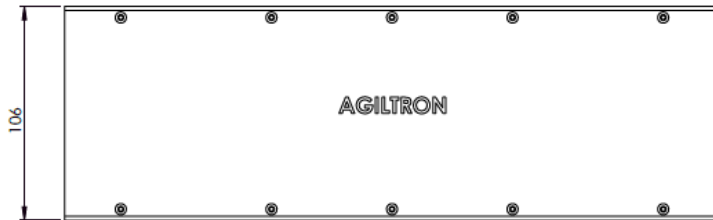
Mechanical Dimensions (Unit: mm) (1200ps version)



Front panel



Right side panel



Top panel



Left side panel

Note: The shorter dimension of package is under development, please check it frequently.

Ordering Information

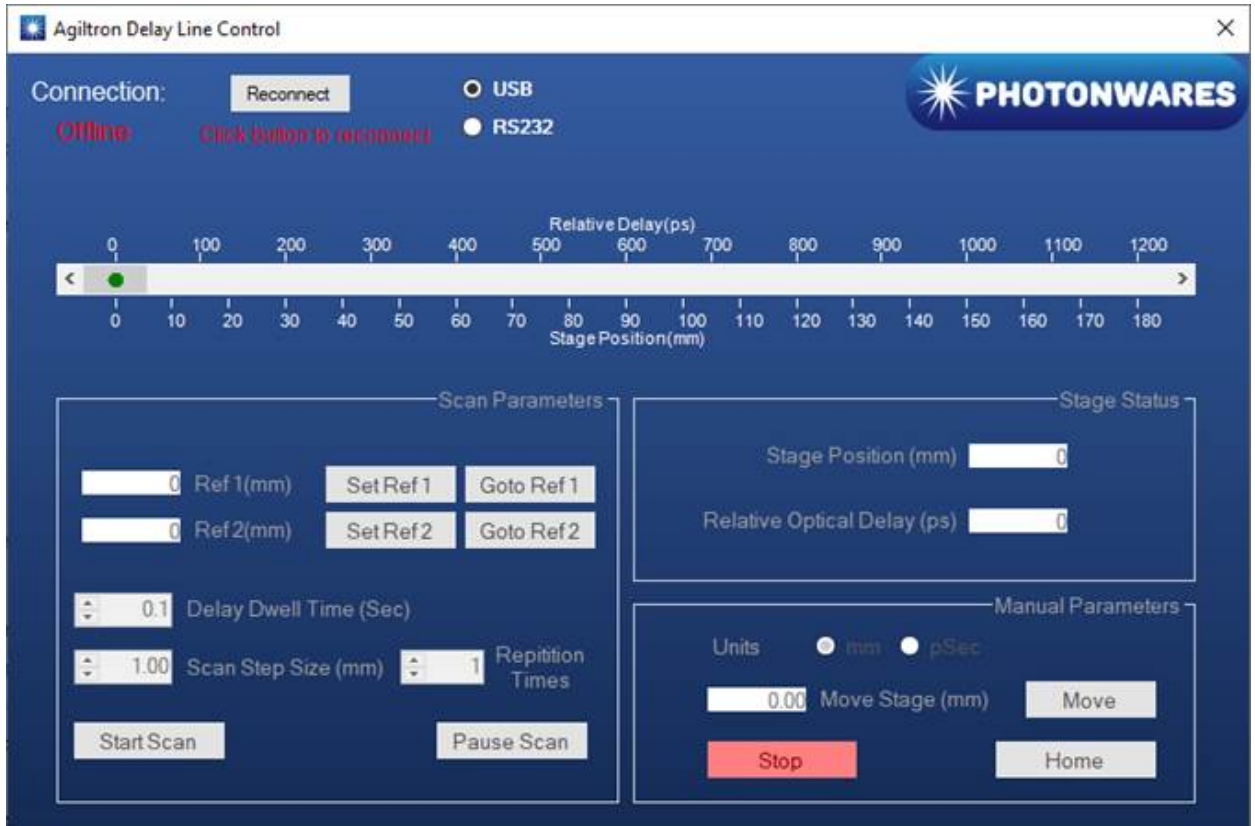
MDTD-	0 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Minimum Step	Package	Fiber Type	Jumper cable*	Max Delay	Connector	
Motorized=01	488=4 532=5 650=6 780=7 850=8 980=9 1060=1 1310=3 1550=C 2000=2 Special=0	8fs=1 Special=0	standard=1 special=0	SMF-28=1 Hi1060=2 PM250=B 50/125=5 62.5/125=6 Special=0	2mm jacket=2 3mm jacket=4 900um loose tube=3 Special=0	330ps=1 660ps=2 1200ps=3	FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC/PC=7 LC/APC=8 Special=0	

*: Default is 1 pair of jumper cable, each 1m length, both ends with same connector type as on box panel. Use "0" for special need and describe all details clearly in order.

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Graphical Interface



The screenshot shows the 'Agiltron Delay Line Control' software window. At the top left, it indicates the connection status as 'Offline' with a 'Reconnect' button. The connection type is set to 'USB'. The 'PHOTONWARES' logo is in the top right. Below the connection info is a horizontal slider for 'Relative Delay (ps)' ranging from 0 to 1200, with a secondary scale for 'Stage Position (mm)' from 0 to 180. The main interface is divided into three sections: 'Scan Parameters', 'Stage Status', and 'Manual Parameters'. 'Scan Parameters' includes fields for 'Ref 1 (mm)', 'Ref 2 (mm)', 'Delay Dwell Time (Sec)', 'Scan Step Size (mm)', and 'Repetition Times', along with 'Set Ref', 'Goto Ref', 'Start Scan', and 'Pause Scan' buttons. 'Stage Status' shows 'Stage Position (mm)' and 'Relative Optical Delay (ps)' with input fields. 'Manual Parameters' includes 'Units' (mm or pSec), a 'Move Stage (mm)' input field with a 'Move' button, a red 'Stop' button, and a 'Home' button.