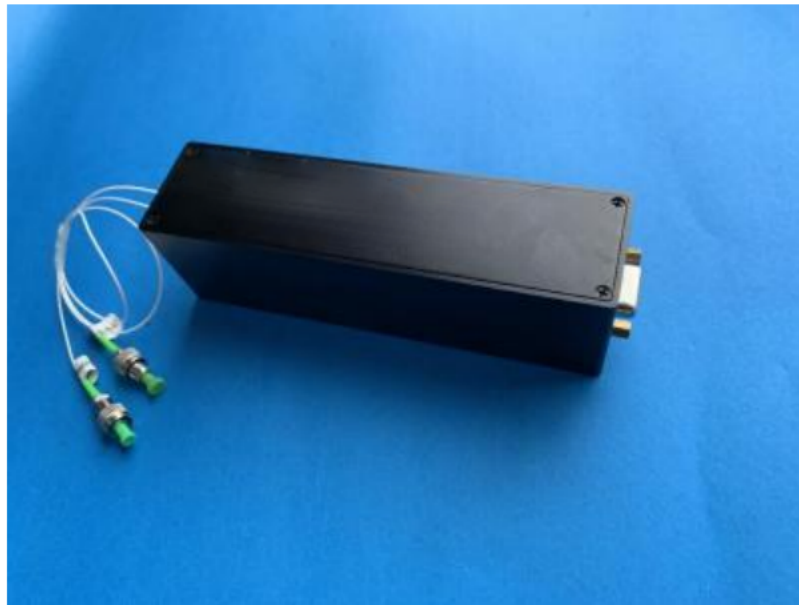


## Electric optical fiber delay line

### Description:

The third generation electric fiber delay line (Optical fiber delay line) is a unique delay mechanism with high precision and low insertion loss, continuous and reliable operation; wide delay range can reach order of ps & fs, high reliability, low polarization related loss ( $<0.1\text{dB}$ ) and low insertion change ( $<0.5\text{dB}$ , simple and compact structure). And can be customized as required by the user requirements.



### [Application of optical fiber delay line]

Radar test, calibration  
Controlled antenna array  
Optical coherence tomography  
X radiography  
Fourier spectroscopic analysis  
Light interferometry  
fibre optic sensor  
Optical time-domain effect measurement  
Optical buffer in a bit-calibrated optical network for time-division multiplexing (OTDM) of an optical network  
Differential Group Delay (OGD)  
Multiplexing at compensation time hours  
fibre optic interferometer

### [Product characteristics]

Unique delay machinery, working continuously and reliably, wide delay range, and customized delay accuracy to user request, delay accuracy up to orders of magnitude ps & fs.  
High reliability, low polarization-associated loss ( $<0.1\text{dB}$ )  
Lower insertion loss change ( $<0.5\text{dB}$ )  
Simple and compact structure, good repeatability, excellent performance.

Product Parameter:

parameter	metric
wavelength coverage	C-band or L-band or other wavelengths
Light delay range	0~100 ps continuous for 100ps model
	0~330 ps continuous for 330ps model
	0~660 ps continuous for 660ps model
	0~1200 ps continuous for 1200ps model
	0~1500 ps continuous for 1500ps model
	0~3000 ps continuous for 3000ps model
	0~4000 ps continuous for 4000ps model
Read-scale resolution	5fs
Minimum step delay	0.0015 mm / step 5fs
insertion loss	typ.0.8dB,max 3.5dB@4000ps
Insertion loss parameter changes	±0.1 dB over entire range for 100ps model
	±0.15 dB over entire range for 330ps model
	±0.15 dB over entire range for 660ps model
	±0.3 dB over entire range for 1200ps model
	±0.3 dB over entire range for 1500ps model
	±0.5 dB over entire range for 3000ps model
	±0.5 dB over entire range for 4000ps model
return loss	> 55 dB
extinction ratio	> 18 dB or higher
Light withstand power	max 500mW
working temperature	-10~80℃
Storage temperature	-40~80℃
Fiber type	Conning SMF-28,or Fujikura PM Panda fiber
Size (L x W x H)	107x34X36mm for 100ps model
	143x34X36mm for 330ps model
	193x38X 38mm for 660ps model
	190x 38X 38mm for 1200ps model
	212x48X38mm for 1500ps model
	324×38×38mm for 3000ps model
	466x 38x 38mm for 4000ps model

Performance value:

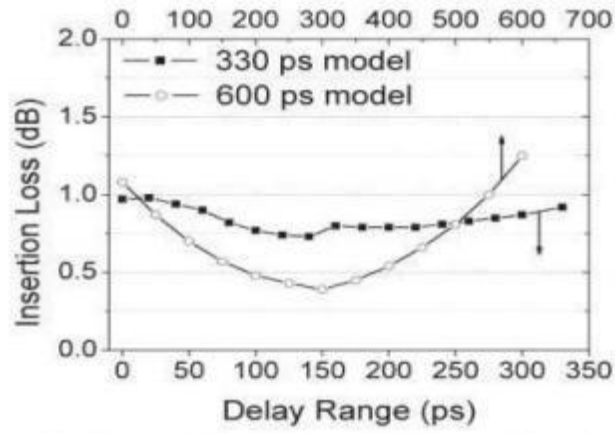
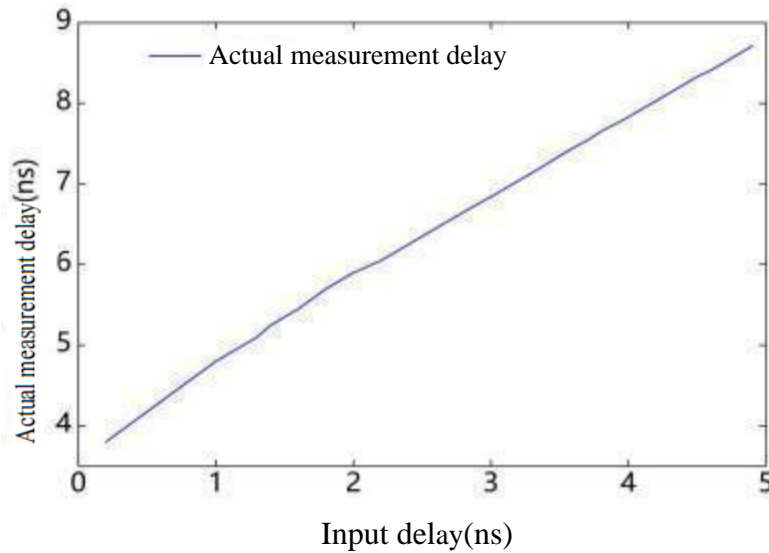
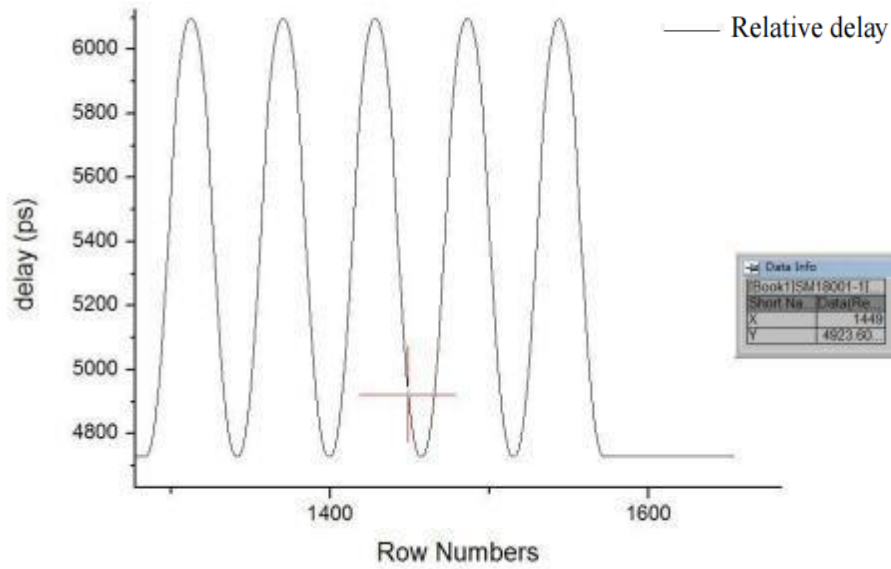


Figure 1. Insertion loss vs. optical delay.

Delayed drawing:



**Product Order Information:**

LT-E	Delay	Wavelength	Fiber type	Fiber length	Junctor
	10=100ps 33=330ps 66=660ps 120=1200ps 150=1500ps 300=3000ps 400=4000ps 500=5000ps XX=others	C=C-band L=L-band 532=532nm 633=633nm 780=780nm 840=840nm 850=850nm 980=980nm 103=1030nm 106=1060nm 131=1310nm 148=1480nm 165=1650nm	S9=SMF 900um M5=MME 50/125/900 M6=MMF 62.5/125/900 PM=PM Panda XX=others	1=1.0m 2=2.0m X=others	NE=None FA=FC/APC FC=FC/PC SA=SC/APC SC=SC/PC ST=ST/PC LA=LC/APC LC=LC/PC XX=others

# Instructions for optical fiber delay lines

direction for use:

You are welcome to use our fiber delay line products, please read the product instructions before use

I. Software interface:



Note: 1. Download the controller and init-command on the official website and under the same interface on the computer. Connect the delay line and power on as required (see connection installation drawing)

2. Select the corresponding specifications according to the specifications you purchased, and be sure to choose the correct range (100, 330, 660, 1200, 1500PS delay line). Select the corresponding link serial port, select the default value of 9600 in the port rate selection column, and press OK; then the delay line returns to zero! Also determine that a Porter Rate Settings key appears to the left of the key! If you want the delay line to run at other baud rates! Select the port rate you need after the delay line at 9600 initializes out of the Baud Rate Settings key! (Note: The initial wave rate of the delay line is 9600! You can reset the port rate you want only after initializing outside the Baud Rate Settings key at 9600! (The interface is initialized state and the delay line automatically zero) 3, choose the mode you want to test: there are two choices A, general mode- - - - -directly input the amount you want to delay to determine! The current position of the controller displays the current delay data in real time; B, Tour mode- - - - -Tour from point to point! Enter one point and another point and fill in the stay time (generally 200 ~ 1000ms); start! The current location of the controller displays the current delay data in real-time!

4. The determination key selected by the serial port is also the initialization zero key of the boot light delay line (Note: zero position in general mode, press

the determination key in general mode to return to zero; when the delay line needs to return to zero during normal debugging, please do not zero in initialization state mode, otherwise it is easy to cause lag).

5. In case of sudden power failure during the use of the product (or other accidents cause it to stop in the middle of the operation), the product should be initialized first after reopening (press the determination key after the serial port selection)!

6. Download the controller using the company's products will naturally generate a TXT text record delay line for real-time running track!

7. Link port can be customized as RS232 and RS485 according to customer requirements

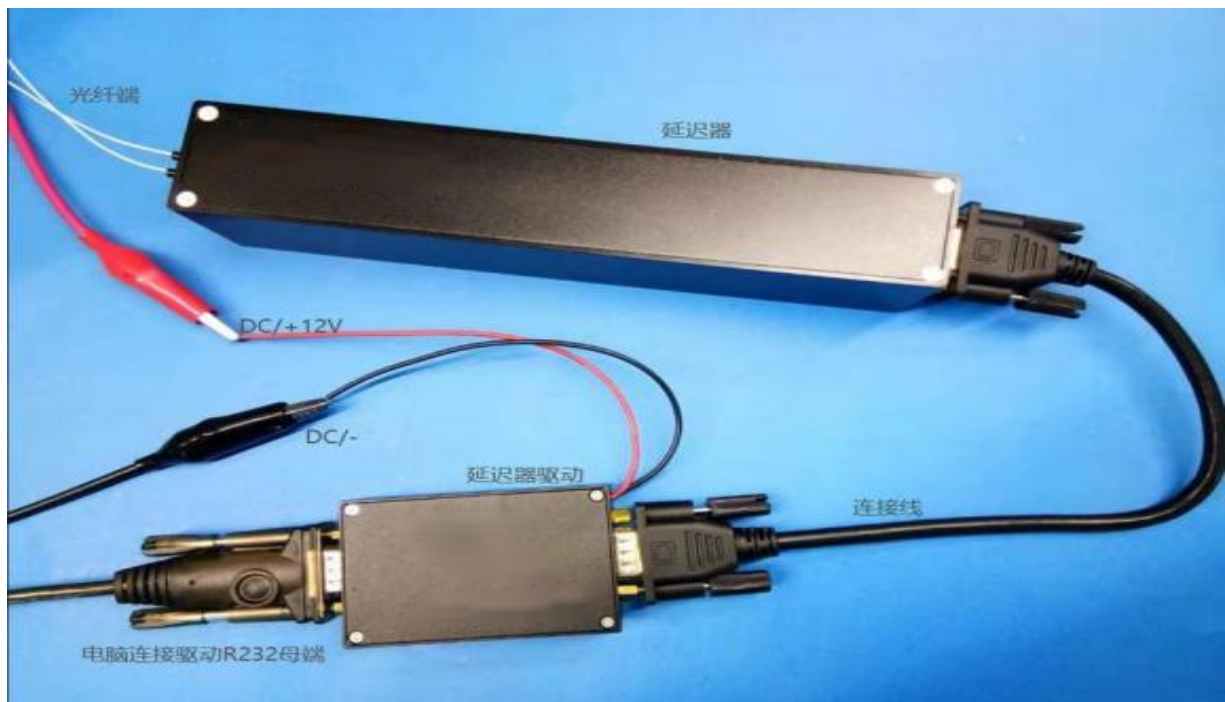
matters need attention:

1. Link R232 master terminal with R232 nine-pin USB and link R 232 as required, link the other end with the delay line with two red and black power lines (red is DC + / 12V; black is DC-); access the corresponding required power supply according to the regulations, otherwise the delay line will be damaged!

2. The init-command text is recommended not to be modified, otherwise the delay line will not work properly!

3. In case of problems, please contact the company in time. It is strictly prohibited to disassemble, otherwise maintenance and after-sales service!

Product connection schematic diagram:





Fiber optic delay line interface definition:

R232	1	2	3	4	5	6	7	8	9
	S1	A+	A-	B-	B+	/	/	DC+	DC-

Driver and computer link-end interface definition:

R232	1	2	3	4	5	6	7	8	9
	/	TX	RX	/	GND	/	/	/	/

container loading list:

1. One delay line;
2. One R 232 with a nine-pin double-head connecting line;
3. The delay line drives one unit;
4. One instruction manual;
5. One test report