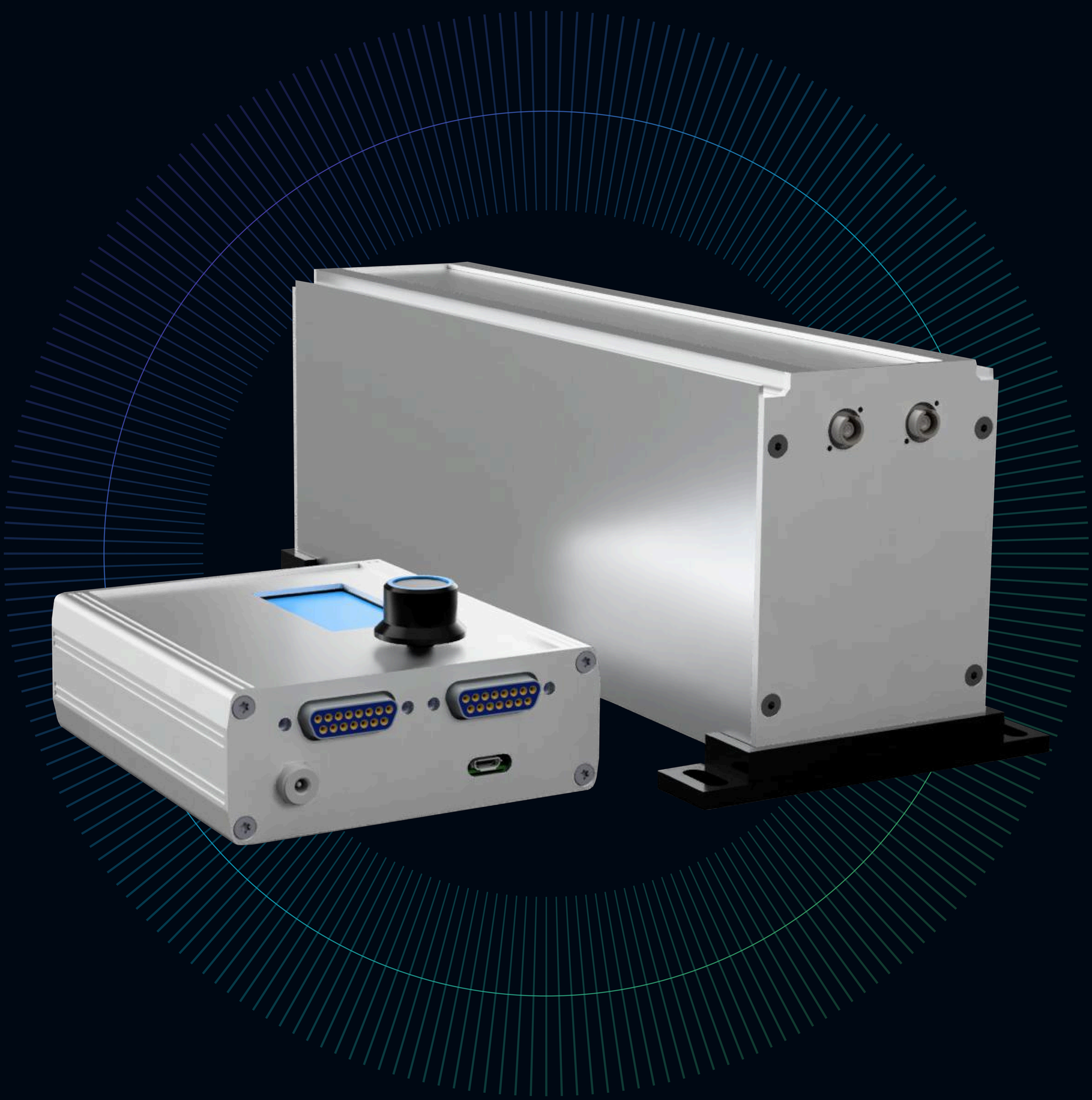
FODL-SA

Fiber optic delay line (stand-alone version)



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Product overview

Our fiber optic delay line is designed to allow a precise variation of the optical path length within a range up to 660 ps and with an unprecedented resolution of < 0.33 fs. The delay line comes with a high-resolution stepper motor and a separate controller which enables both direct manual and computer based remote operation of the device. Up to 2 delay lines can be driven by the same controller. FC/APC connectors are used as a standard on the optical input / output, but FC/PC option is also available.

Variants

(any combination of the parameters can be chosen)

Operating wavelength:	1550 nm / 2000 nm
Optical delay range:	330 ps / 660 ps
Fiber type:	polarization maintaining (PM) / single mode (SM)
Fiber connectors:	FC/APC / FC/PC

Full specifications

Specification	Delay lines			
Operating wavelength [nm]	1550		2000	
Optical delay range [ps]	330	660	330	660
Typical insertion loss [dB]	1.4	1.7	2.5	2.5
Insertion loss uniformity [dB]	0.25	0.35	0.2	0.2
Return loss[1] [dB]	> 50			
Optical delay resolution [fs]	< 0.33			
Polarization extinction ratio[2] [dB]	> 20			
Max power [mW]	1000		2000	
Position accuracy [µm]	± 10			
Position repeatability [µm]	± 1			
Fiber type	PM-1550 / SM-1550		PM-1950 / SM-1950	
Fiber connectors	FC/APC, FC/PC			
Dimensions (delay line) [mm]	76.4 × 106 × 231.5[3] / 76.4 × 106 × 286.5[4]			
Dimensions (controller) [mm]	105.4 × 54 × 128			
Weight (delay line)[5] [kg]	2 / 2.5			
Weight (controller) [kg]	0.6			
Operating temperature[6] [°C]	10 - 40			
Storage temperature [°C]	-30 - 70			
Power requirements	12/24V, 1.5 A			
Control	direct via controller knob, remote via USB			

[1] For version with FC/APC connectors

[2] For version with PM fibers

[3] 330 ps version

[4] 660 ps version

[5] Values for 330 ps and 660 ps versions, respectively

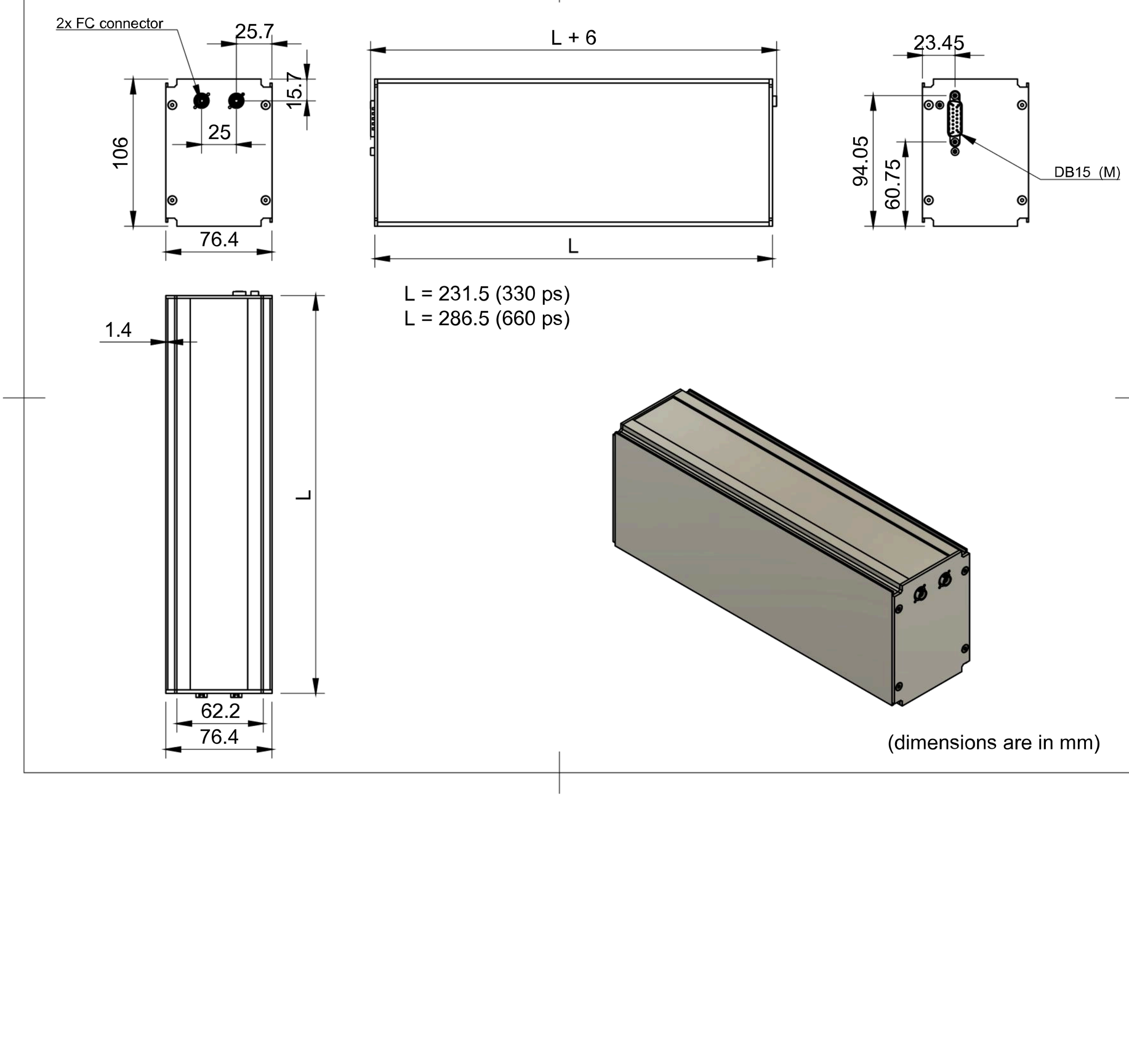
[6] Range of temperatures where temperature-driven additional insertion loss < 1 dB is maintained

Features

- High resolution (< 0.33 fs)
- Low insertion loss even at 2000 nm
- Controller with display and knob for direct manual operation
- USB connection for remote control
- 2 delay line units can be driven by the same controller
- Compatible with our modular rack system for delay lines (FODL-MDX)
- Support legs for non-deformative mounting of the delay line unit on standard optical tables and breadboards

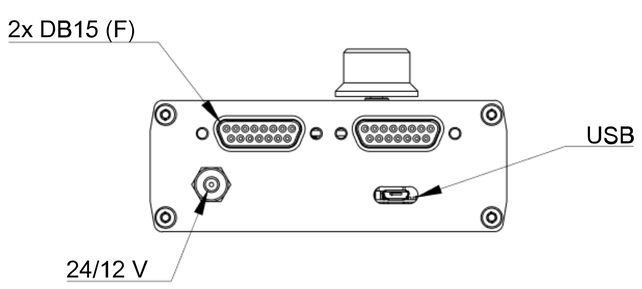
Mechanical drawing

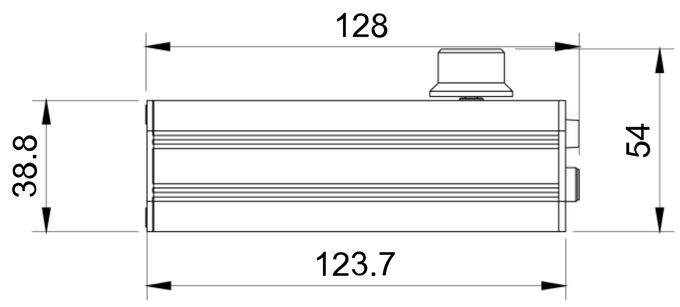
Delay line unit:

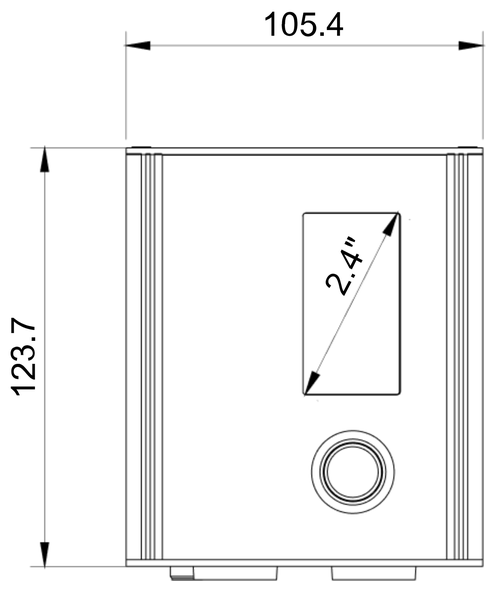


(dimensions are in mm)

Controller:







(dimensions are in mm)

Order information

Delay lines

Individual stand-alone delay lines can be ordered by a product number created as follows. Note that the delay lines can be purchased also as modular inserts for 19” subracks (see FODL-MDX for more information).

FODL-WWWW-DDD-TT-CCC-SA

WWWW = operation wavelength: 1550 / 2000

DDD = optical delay range: 330 / 660

TT = fiber type: PM / SM

CCC = fiber connector: PC / APC

Example:

Delay line operating at 1550 nm, with optical delay range 660 ps, SM fibers, and APC connectors:

FODL-1550-660-SM-APC

Controller

The controller for stand-alone delay lines (capable of driving up to 2 units) can be ordered by the following product number.

FODL-CRTL-2-SA

OptiXs

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