Specification Sheet
05.2018

Product Development Kit

This Product Development Kit provides you with three single-color laser modules and three lengths of Corning® Fibrance® Light-Diffusing Fiber. The kit is intended to let you experience the features of our products and incorporate them into your own prototypes.

Once you have ideas for where Versalume can fit into your own products, contact us to answer any technical questions and obtain specific pricing.

Benefits of Versalume

- Emits continuous uniform light
- Bright, clear color
- Light, thin and flexible
- Tight-bend capability
- Proprietary glass optical fiber core
- Very low thermal output
- Versatile for many applications

Contents of the Product Development Kit

1x	Red Laser Module
1x	Green Laser Module
1x	Blue Laser Module
6x	AAA Lithium Ion Batteries* (domestic shipments only)
1x	1 Meter, Fibrance Fiber
1x	5 Meters, Fibrance Fiber
1x	10 Meters, Fibrance Fiber

Corning® Fibrance® Light-Diffusing Fiber Specifications

Optical

Light-Diffusion Length (Nominal)	1 m	5 m	10 m
Light-Diffusion Output (1 m)	90%		
Numerical Aperture	> 0.5		
Operating Wavelength Range	405 – 1000 nm evaluated, broader possible		
Viewing Angle [1]	> 120 degrees		
Optical Connector	FC		
Connector Options	One end connectorized is standard		

Mechanical

Core Diameter	170 ± 3 µm		
Outer Diameter	230 ± 10 µm		
Physical Length (Nominal)	1 m	5 m	10 m
Jacket Diameter (Nominal)	900 nominal µm		
Jacket Material	Optical Grade PVC		
Proof Test - Tensile Strength	> 100 kpsi		

Environmental

Operating Temperature Range	-40 to +65°C
Storage Temperature Range	-40 to +65°C

Notes

[1] Viewing angle is defined as the angle at which the luminance is greater than 50% of the maximum. The fiber emits light uniformly in 360° around the circumference of the fiber and >120° along the length of the fiber if viewed from either end.

Single Color Laser Module

Optical and Electrical

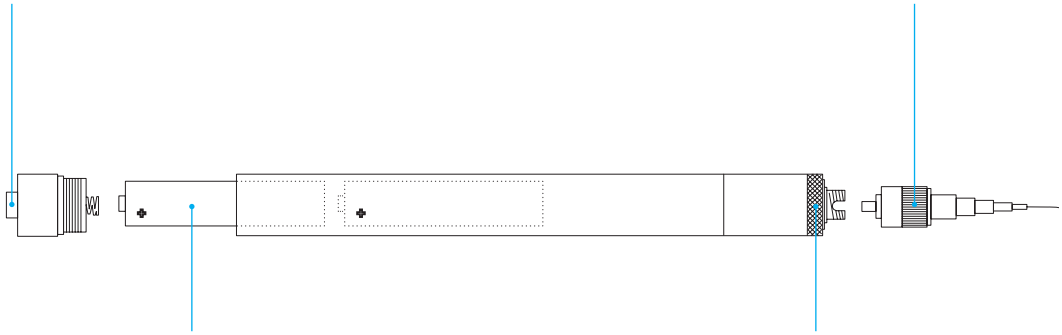
Laser Color	Red	Green	Blue
Nominal Wavelength	638 nm ± 5 nm	520 nm ± 5 nm	450 nm ± 5 nm
Optical Power Output	≤ 20 mW		
Operating Voltage Input	3.0VDC		
Power Source	2x AAA Lithium Ion Batteries		
Operating Current	< 90 mA	< 180 mA	< 120 mA
Laser Mode	Continuous wavelength		
Numerical Aperture	0.22 NA		
Connector Receptacle	FC		
Control Interface	Auto Constant Current		
Circuit Protection	Static, Surge, Reverse Polarity		

Environmental and Regulatory

Regulatory	CDRH Class 3R Laser Product, ROHS Compatible
MTBF	8000 hrs at 25°C Nominal
Case Operating Temp Range	-10 to + 50°C
Storage Temperature Range	-40 to + 80°C

On/Off Button
Depress rubber button to turn the laser on/off. Ensure laser is off before storing safely.

FC Connectorized Fiber
The Corning Fibrance fiber has an FC connector for easy and secure connections.



AAA lithium ion batteries
Unscrew end of laser module with on/off button. Insert two lithium ion batteries in the exact orientation shown. Replace screw cap tightly.

Laser Connector
Remove metal screw cap to reveal the keyed FC fiber optic connector.

Notes

The light emitted from these sources exceed the exposure limits associated with the eye. As such, direct exposure to the eye could cause permanent damage to your eye sight. However, with proper use, the risk of injury is unlikely. Read and follow these safety precautions when using laser sources.

- Before turning on the laser, always be sure that it is pointed away from yourself and others. Never direct a laser output at another person.
- Before turning on the laser, always be sure that it is connected to a length of Fibrance Light-Diffusing Fiber of a length greater than or equal to one diffusion length.
- Never look directly into a laser source.
- Follow the same rules for direct reflections of laser light from reflective surfaces.
- This laser product does not produce a collimated beam.

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