

Photon

Laser Diode Modules



The Photon laser diode module range has been designed as a complete solution for OEM use. This compact and self-contained design is available in a wide range of wavelengths and power levels, making it suitable for a broad range of applications. The range offers high reliability and is available with CW or TTL modulation. A 25mm flange is an option to allow for easier mounting.

Photon laser diode modules are available with elliptical or circular beams. Optics are adjustable to allow users increased flexibility. Different colored barrels are available for identification purposes. Line generating options are also available.

ProPhotonix has more than twenty years of experience in providing lasers for some of the most demanding environments and can provide custom solutions for specific applications. For further information on how ProPhotonix can meet your solution requirements, contact us.

Key Features

- Elliptical and Circular Beam, Line Generating Optics Available
- Compact & Self-Contained Design
- High Reliability
- Adjustable Optics
- Available Wavelengths Include 488nm, 520nm, 635nm and 830nm
- Optical Output Powers from 0.9mW to 85mW
- CW or TTL Modulation Options
- Available with a 25mm Mounting Flange

Key Applications

- Industrial Alignment & Positioning
- Fluorescence
- Industrial Inspection
- Low Level Laser Therapy
- Spectroscopy
- Sensors
- Particle Measurement

Product Characteristics

General Characteristics	
Power Stability	<5% at 25°C
Pointing Stability	<0.2mrad/°C
Bore Sighting	<2.0°
Operating voltage 635-850nm	2.7 - 6.0V DC
Operating voltage for 405nm	8.0 - 10.0V DC
Operating voltage 488/520nm	9V DC
Operating Temperature (non-condensing)	-10°C to + 50°C
Storage Temperature	-40°C to + 85°C
Housing Material	HE30 Anodised Aluminium
Flying Lead Length	300mm
Modulation 520-850nm	TTL 0HZ-100kHz max, 0V=off 5V=on
Modulation 405nm modules	TTL 0HZ-1kHz Max, 0V=off 5V=on

Photon Line Module Characteristics

Wavelength (nm)	Optical Output Power (mW)
405	0.9
	10
	15
	30
488	5
	10
	20
520	0.9
	5
	10
	20
635	0.9
	5
638	10
640	20
650	0.9
655	10
658	15
660	30
670	0.9
	3
705	10
785	0.9
	5
830	10
	40
850	10

Elliptical Output Beam

Wavelength (nm)	Optical Output Power (mW)
405	0.9
	4
	25
	35
	60
488	5
	10
	20
520	0.9
	5
	10
	20
635	0.9
	3
	5
	12
	18
638	25
640	40
650	0.9
	3
655	22
658	30
660	70
670	0.9
	3
	5
705	25
785	0.9
	3
	12
830	25
	85
850	25
Collimated Beam Size (typ @ 1m) : 4 x 2mm	
Beam Divergence (typ @ 1m) : 0.6 x 0.3 mrad	

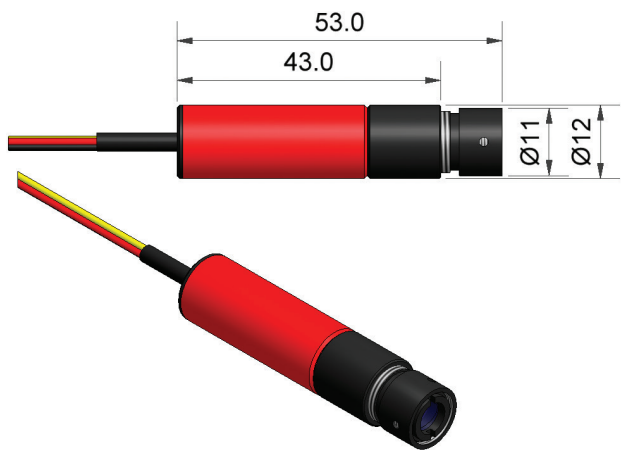
Fan Angles for Line Generating Optics

Fan Angles (°)
3°
12°
22°
30°

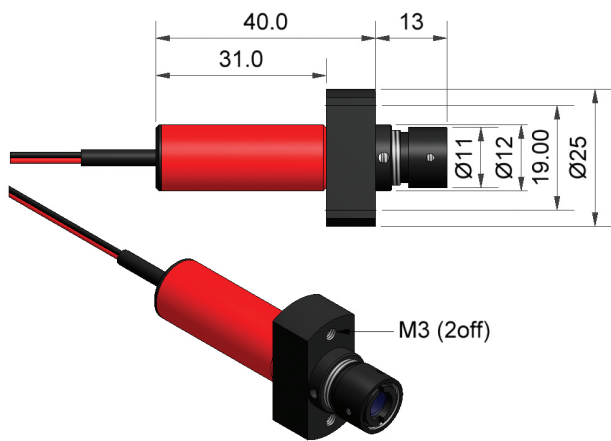
Circular Output Beam

Wavelength (nm)	Optical Output Power (mW)
405	0.9
	4
	25
	35
	60
635	0.9
	3
	6
	12
	18
638	25
640	40
650	0.9
	3
Collimated Beam Size (typ @ 1m) : 1.8mm	
Beam Divergence (typ @ 1m) : 0.6mrad	

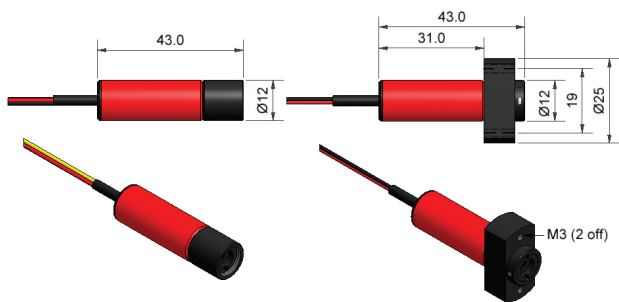
Line Generating Photon Module



Line Generating Photon Module with Flange



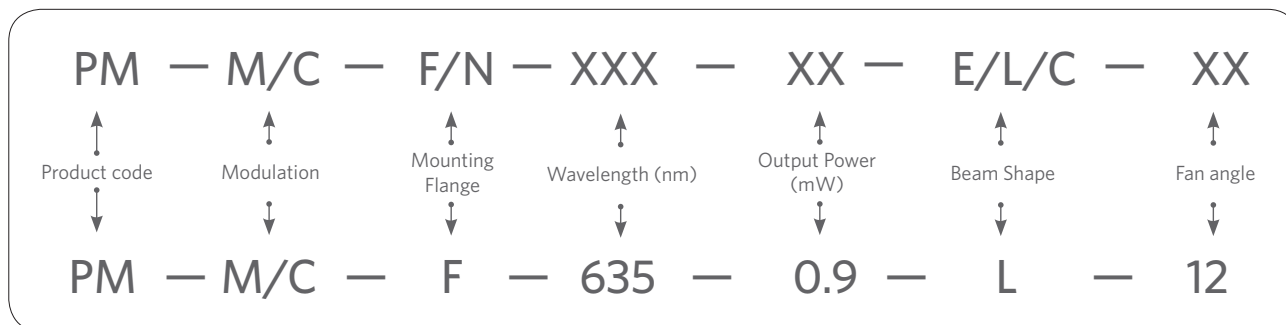
Photon Module without and with a Flange - Spot Optics



Part Numbers

To order your Photon Laser Diode Module use the product Code PM – Select Modulation (M – Modulation/C – CW) – Select Mounting Flange (F – Flange/N – No Flange) – Select Wavelength (XXX) – Select Output Power (XX) – Select Beam Shape (E – Elliptical/C – Circular/L – Line) – Select Fan Angle (XX) (Fan Angle for Line Optics ; XX Spot).

e.g PM – M – F – 635 – 0.9 – L – 12



Note: For Cross Optics, Multiple Lines & Dots Matrix options please contact sales@prophotonix.com

Laser Safety Information

The light emitted from these devices has been set in accordance with IEC EN 60825-1:2007. However, staring into the beam, whether directly or indirectly must be avoided. It is recommended that the user wears appropriate laser safety glasses. Our laser modules are classified into one of the IEC EN 60825-1:2007 classifications shown below, depending on the wavelength and power.



Class 1

This class is eye-safe under normal operating conditions.



Class 1M

This class of visible laser (500-700nm) is safe for viewing directly with the naked eye, but may be hazardous to view with the aid of magnifying optics such as microscopes and telescopes.



Class 2

This class of visible laser (400-700nm) is safe for accidental viewing under all operating conditions. However, it may not be safe for a person who deliberately stares into the laser beam for longer than 0.25 s, by overcoming their natural aversion response to the very bright light.



Class 2M

This class of visible laser (400-700nm) is safe for accidental viewing with the naked eye, as long as the natural aversion response is not overcome as with Class 2, but may be hazardous (even for accidental viewing) when viewed with the aid of optical instruments, as with class 1M.



Class 3R

Radiation in this class is considered low risk, but potentially hazardous. The class limit for 3R is 5x the applicable class limit for Class 1 (for invisible radiation) or class 2 (for visible radiation).



Class 3B

Radiation in this class is hazardous if the eye is exposed directly. The AEL for a continuous wave laser in the wavelength range 315nm to far infrared is 500mW. For pulsed lasers between 400 and 700 nm, the limit is 30mJ. The radiation can be a hazard to the eye or skin. Class-3B lasers must be equipped with a key switch and a safety interlock.

NB: It is important to note that while complying with the above classifications, unless otherwise stated, our laser diode products are not certified and are designed solely for use in OEM products. The way in which the device is used in the final product may alter its original design classification, and it is the responsibility of the OEM to ensure their products comply with the relevant standards.

Errors & Omissions Excepted. The information describes the type of product and shall not be considered as assured characteristics.

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