

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 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 two decades 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

- 10 wavelength options including 375nm, 488nm, 520nm, 635nm and 830nm
- Elliptical and Circular Beam, Line Generating Optics Available
- Compact & Self-Contained Design
- High Reliability
- Focus-adjustable elliptical beam lasers
- Optical Output Powers from 0.9mW to 85mW
- CW and 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	4.0V to 6.0V _{dc}
Operating voltage for 375/405nm	8.0 to 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	6026 Anodized Aluminium
Flying Lead Length	300mm
Modulation 520-850nm	0Hz-100kHz Max, 0 V _{dc} =off 5 V _{dc} =on
Modulation 375nm/405nm modules	0Hz-1kHz Max, 0 V _{dc} =off 5 V _{dc} =on

Photon Line Module Characteristics

Wavelength (nm)	Optical Output Power (mW)
375	10
	20
	50
405	0.9
	10
	15
	30
488	5
	10
	20
520	0.9
	5
	10
	20
635	0.9
	5
650	0.9
660	30
	3
785	0.9
	5
830	10
	40
850	10

Elliptical Output Beam

Wavelength (nm)	Optical Output Power (mW)
375	10
	20
	70
405	0.9
	4
	25
	35
	60
488	5
	10
	20
520	0.9
	5
	10
	20
635	0.9
	3
	5
	12
	18
650	0.9
	3
660	70
	3
	5
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	

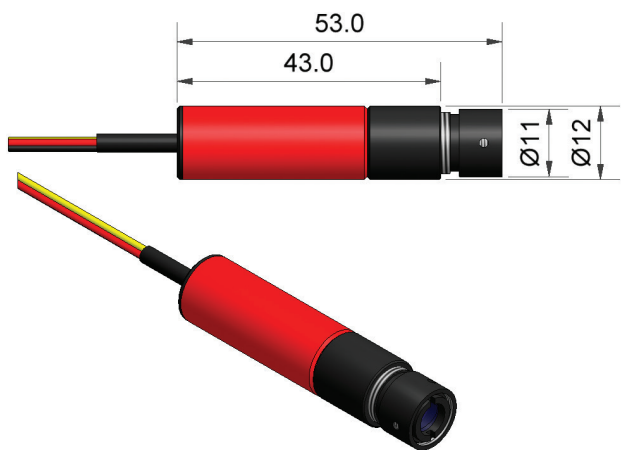
Fan Angles for Line Generating Optics

Fan Angles (°)
3°
12°
22°
30°

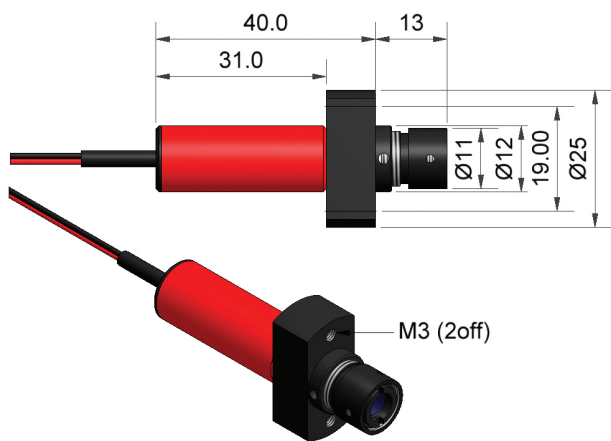
Circular Output Beam

Wavelength (nm)	Optical Output Power (mW)
635	0.9
	3
	6
	12
	18
Collimated Beam Size (typ @ 1m) : 1.8mm	
Beam Divergence (typ @ 1m) : 0.6mrad	

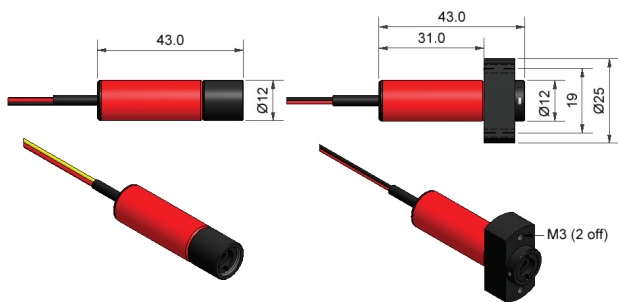
Line Generating Photon Module



Line Generating Photon Module with Flange



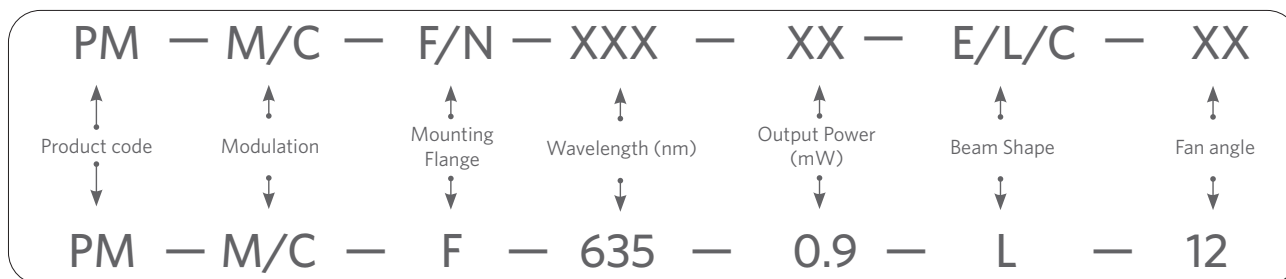
Photon Module without and with a Flange - Spot Optics



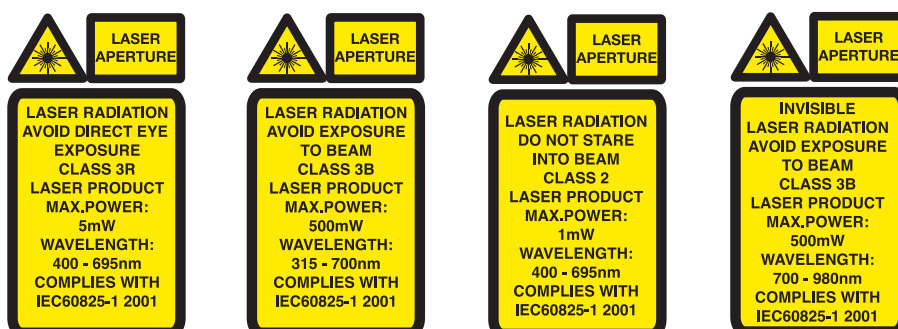
Part Numbers

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

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

CLASS II

“Caution”, visible laser light less than 1.0mW. Considered eye safe, normal exposure to this type of beam will not cause permanent damage to the retina.

CLASS IIIR

“Danger”, visible laser light between 1.0mW and 5.0mW. Considered eye safe with caution. Focusing of this light into the eye could cause some damage.

CLASS IIIB

“Danger”, infrared (IR), and high power visible lasers considered dangerous to the retina if exposed.

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 compliance with the relevant standards.

NB. Without the inclusion of laser drive circuits, the output powers cannot be set in accordance with EN60825 since they are designed for OEM use and not certified devices as defined in the specification. The manufacturer of the complete laser product is responsible for complying with the requirements of EN60825. If the case temperature of the laser diode exceeds its maximum specification, premature or catastrophic failure may occur. To ensure the maximum life of the laser diode, it is recommended that an additional electrically insulated heatsink, of at least 35sq. cm. be used. Thermal transfer paste can be used to improve contact and heat dissipation. Do not restrict air circulation around the device. Specifications subject to change without notice.

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

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