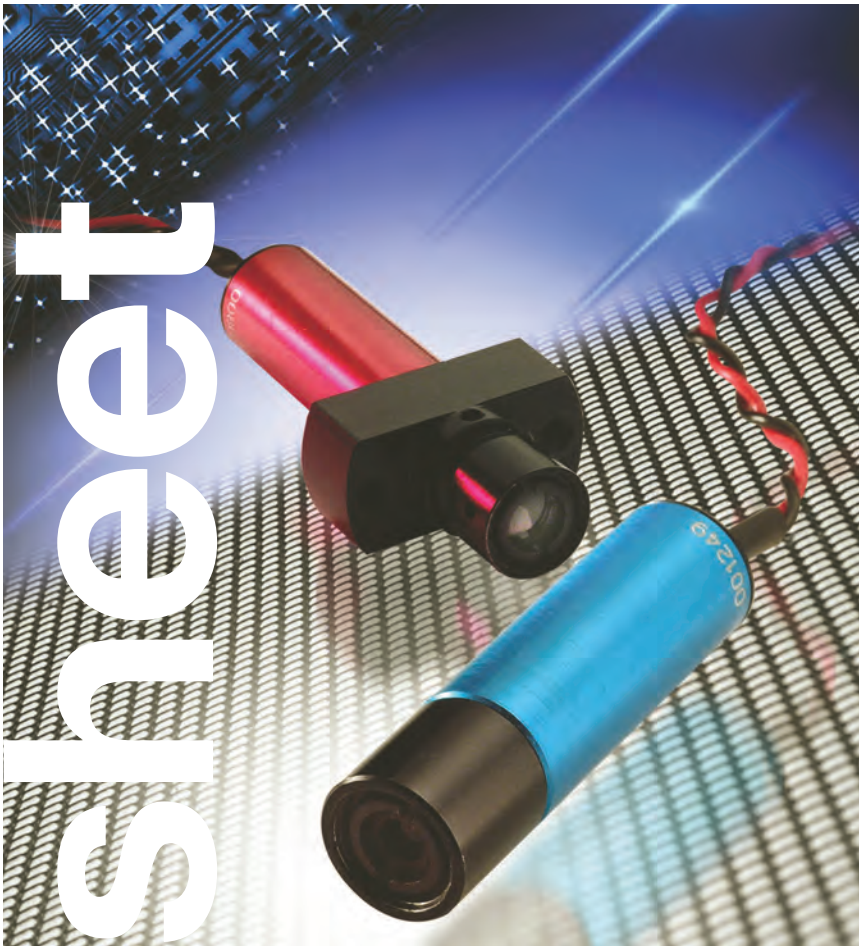


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**PHOTONIC**  
PRODUCTS  
a StockerYale company



## PM-NEOLD laser diode module

### Key features

- Integral “Near End of Life Detection” facility
- Visible light  $\lambda = 635\text{nm}$
- Output powers from 0.9mW to 18mW
- Adjustable optics
- High reliability

### Applications

- Industrial alignment & positioning
- Bar code readers
- Medical fluorescence

### Options

PM-NEOLD: Photon Module

PMF-NEOLD: Photon Module with Flange

### 635nm Photon Laser Diode Modules with “Near End of Life Detection”

As a laser diode approaches the end of its operational life, its imminent failure is signalled by an increase in the current being drawn from its drive circuitry. Typically, when the current draw reaches a value of 120% of its original operating value, the laser diode is considered to have reached its “Near End of Life” condition.

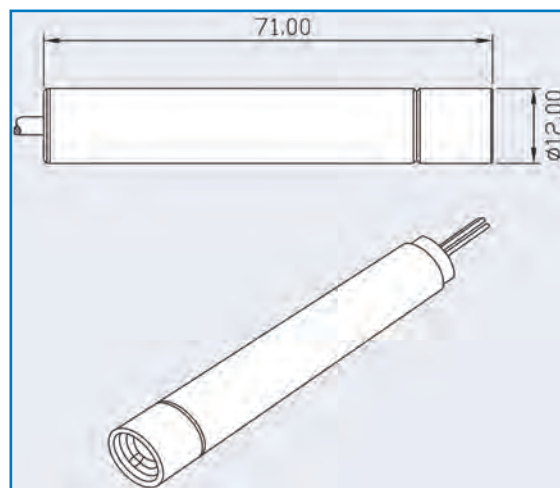
PM-NEOLD Laser Diode Modules have an integral “Near End of Life Detection” facility which is set to respond when this condition has been reached. The generated signal can be utilised by the user to trigger an audible alarm or an LED warning light.

The circuit is set to be fail safe, i.e. if there is a wire breakage, the alarm signal will be triggered.

The modules consist of an aluminium housing, laser diode, drive circuit and collimating lens and can be supplied in various colours, (red, green, blue, black, violet), to assist in wavelength or power identification. The PMF-NEOLD modules have a 25mm mounting flange.

Electrical connections are made via external flying leads. The lens may be adjusted to produce either a collimated beam or focused spot. The standard lens may be replaced by other optical systems such as line generators.

The PM-NEOLD range of laser diode modules has been designed as a complete laser diode solution for OEM use.



## PM-NEOLD laser diode module

### Specifications (typical @ tc = 25°C)

Part no. PM/PMF-NEOLD	101-P	201-P	301-P	401-P	501-P
Wavelength	635nm	635nm	635nm	635nm	635nm
Output Power	0.9mW	3.0mW	6.0mW	12.0mW	18.0mW
Power Stability	< 5%				
Beam Size (1/e <sup>2</sup> )	3.5x1.5mm				
Beam Divergence	0.6x0.3mrad				
Pointing Stability	<0.2mrad/°C				
Bore Sighting	<2.0°				
Operating Voltage (DC)	3-6V				
Operating Current	35mA	65mA	80mA	90mA	90mA
Operating Temperature (non condensing)	-10°C to +50°C				
Temperature Compensation over Range	-10°C to +40°C				
Storage Temperature	-40°C to +85°C				
Length	71mm				
Diameter (mounting flange 25mm)	12mm				
Housing Material	HE30 Anodised Aluminium				
Flying Lead Length	300mm				

The PM-NEOLD Laser Modules have an integral "Near End of Life Detection" facility which is set to trigger at 120% of the 'normal' operational current of the laser diode. A warning signal is sent when this current is exceeded (this level of current draw being indicative of the module nearing the end of its operational life). The signal can be used by the end user to trigger an audible alarm or an LED warning light.

The circuit is set to be fail safe, i.e. if there is a wire breakage, the alarm signal will be triggered.

#### Heat Sinking

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 35 sq.cm. be used. Thermal transfer cream can be used to improve contact and heat dissipation. Do not restrict air circulation around the device.

#### Power Connections

The Photon laser diode modules require a regulated input voltage of 3-6V DC. Connections are made via the 2 pre-tinned external flying leads, (red is positive, black is negative).

**WARNING:** The anodised housing is internally connected to the positive supply rail. Damage to the external anodised surfaces will result in the housing being at positive potential.

Specifications subject to change without notice. E&OE

### 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 IIIA

"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.

