

# InViso™ Micro

## Structured Light Laser Module



### InViso Micro - Extremely Thin Laser Lines

InViso™ Micro is the latest product offering in the InViso range, designed for applications requiring extremely thin laser lines. InViso Micro achieves a line width of just 16µm at a working distance of 120mm.

InViso Micro, like the rest of the InViso range, incorporates innovative features that significantly ease integration whilst delivering the high performance required in many machine vision applications. InViso Micro has a flat mounting surface with the output beam referenced to this surface which means the beam is automatically aligned on installation. This removes the need for lengthy and tedious adjustments to ensure precise beam alignment.

A unique external focus mechanism preserves factory set alignment & bore sight settings when adjusting the focus without the use of complex tools. Both standard and custom configurations provide cost-effective solutions for any size or scope of business.

### Key Features

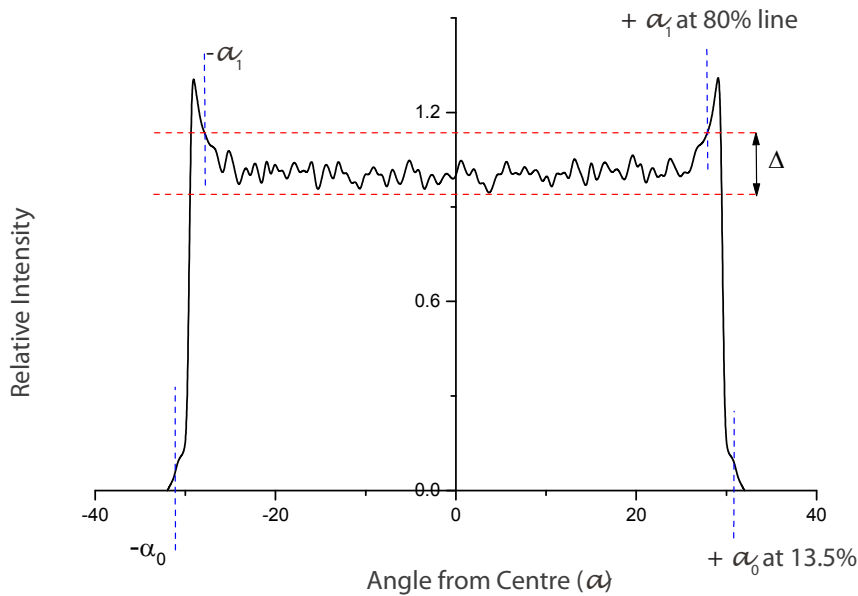
- Line width of 16µm at 120mm
- Flat mounting surface for instant beam alignment
- Easy externally adjustable focus
- Excellent uniformity
- Wide range of options including wavelengths, power levels, intensity control and modulation

### Key Applications

- Applications requiring extremely thin laser lines
- 3D measurement
- High speed sorting & classification
- High precision alignment
- Automated inspection

## Uniformity

InViso Micro lasers can deliver a range of uniformities dependent on customer requirements. The graph below shows a typical intensity profile along the length of a line and our method for defining the uniformity and beam angle. InViso Micro achieves a standard uniformity of  $\pm 22.5\%$ . A higher uniformity option is available with a uniformity of  $\pm 12.5\%$ .



$I$  : Optical power

$2\alpha_0$  : Fan angle

$$\alpha_1 = 2 \operatorname{Arctan} \left( 0.8 \tan \frac{\alpha_0}{2} \right)$$

$$\Delta : \operatorname{Max} I (-\alpha_1, \alpha_1) - \operatorname{Min} I (-\alpha_1, \alpha_1)$$

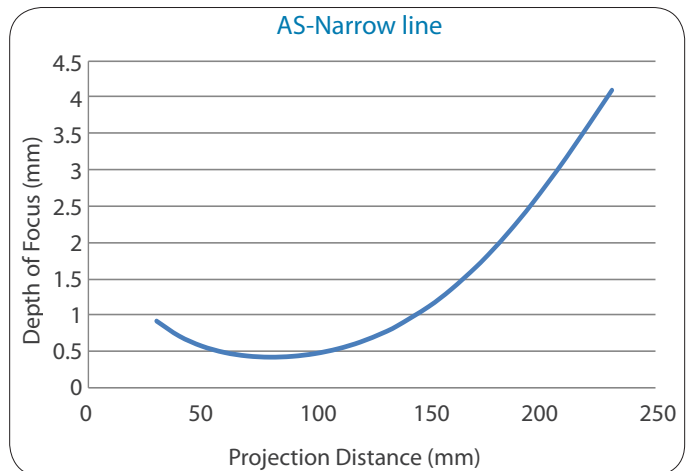
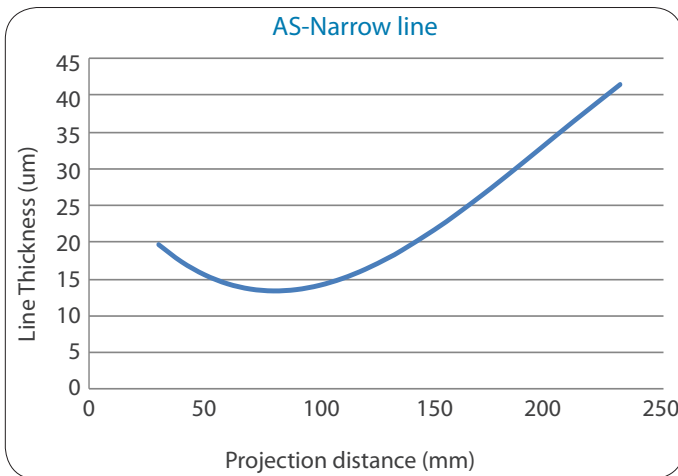
$$\text{Uniformity} = \pm \frac{\Delta}{2I(-\alpha_1, \alpha_1)} * 100$$

$I(-\alpha_1, \alpha_1)$  : average intensity between  $(-\alpha_1, \alpha_1)$

Uniformity		
S	Standard	$\pm 22.5\%$
H	Higher	$\pm 12.5\%$

## Focusing and Depth of Focus performance

The following graph show the focusing and depth of focus performance of InViso Micro.



## Product Specifications

Mechanical Specifications	
Weight	<90g
Housing Material	Anodized Aluminum
Protection Category	IP56
Electrical Isolation	Potential-free Housing
Bore Sighting	<1mrad

Fan Angle
10°, 20°, 30°, 45°, 60°, 75°, 90°

Optical Options	
L01	1 Line
S01	Spot

Wavelength (nm)	Diode Power Options (mW)							
	1	5	10	15	30	35		
635	1	5	10	15	30	35		
660	1	5	10	20	35	50	80	100
670	5	10	15					

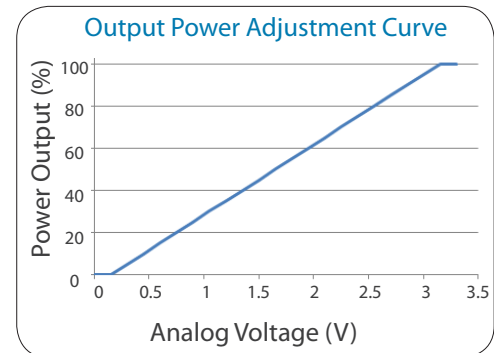
Other wavelengths and power levels are available on request

Electronic Options	
S	Standard
A	Analogue Control
T	TTL Modulation
B	Both Analogue & TTL

Please Note: Power Levels refer to diode power. Output power will vary depending on the optical configuration

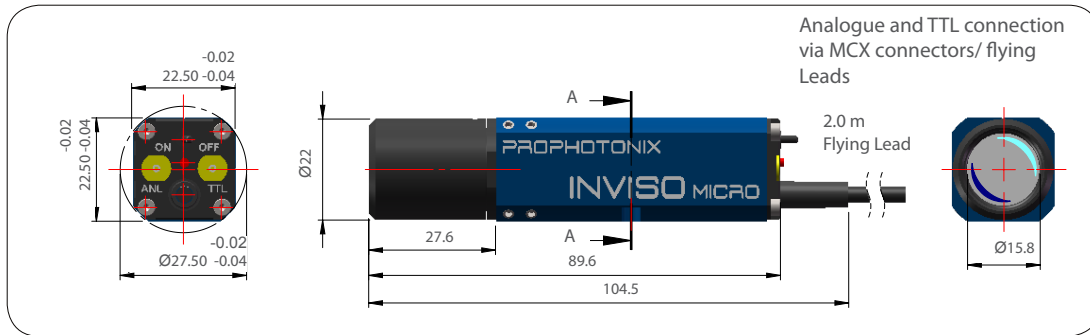
Electrical and Environmental Specifications	Min	Max
Input Voltage	5VDC	30VDC
Input Current	Up to 200mA	
Mode of Operation	Automatic Power Control with current limiting	
Optical Power Stability	±3%	
Operating Temperature*	-10°C	40°C
Storage Temperature	-10°C	80°C
Reverse polarity voltage	-30VDC	
Digital Modulation	TTL, DC up to 1MHz	
Analog Modulation	0 - 3.3VDC, DC up to 100kHz	

\*Module surface temperature

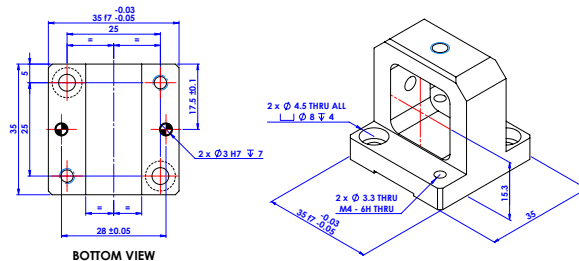


## Custom Solutions

ProPhotonix specializes in custom solutions and can provide other wavelengths, diode powers and optics if required.



To order your InViso mounting bracket use V-MOUNT-001



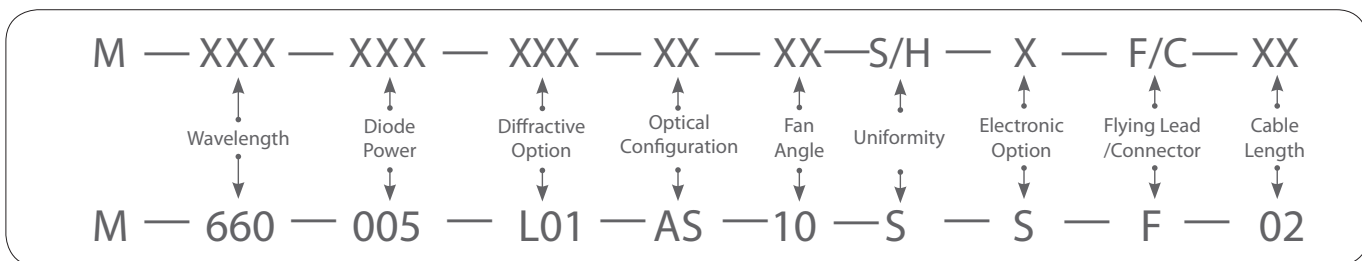
Electrical Connection		
F	Flying Lead	See Drawing
C	Connector	LEMO FGG OB Series

### Part Numbers

InViso Micro Lasers are covered by a 2 year warranty.

To order your InViso Micro Laser use the product code M – Select Wavelength(XXX)- Select Diode Power (XXX) – Select Diffractive Option (L01) - Select Optical configuration (AS)- Select Fan Angle (XX) – Select Standard or Higher Uniformity (S/H) -Select Electronic Option (X) – Select Flying lead/Connector – Select Cable Length in metres (XX)

E.G. M – 660 – 005 – L01 - AS - 10 – S – S – F – 02



### Laser Safety Information

Our lasers are compliant with IEC 60825 standards. For further information please contact us.

301111

#### North/South America Sales

32 Hampshire Road  
Salem, NH 03079  
sales@prophotonix.com  
Tel: +1 800-472-4633  
Fax: +1 603-898-8851

#### LED Solutions

3020 Euro Business Park,  
Little Island, Cork, Ireland  
sales@prophotonix.com  
Tel: +353-21-5001313  
Fax: +353-21-4297749

#### Laser Solutions

Sparrow Lane, Hatfield Broad Oak  
Hertfordshire, CM22 7BA, UK  
sales@prophotonix.com  
Tel: +44-1279-717170  
Fax: +44-1279-717171

ProPhotonix and the ProPhotonix logo are trademarks of ProPhotonix, Inc. All other brand and product names are trademarks or registered trademarks of their respective holders. Copyright © May 2010 ProPhotonix, Inc. Printed in the USA. All rights reserved.



Visit us on the Web: [www.prophotonix.com](http://www.prophotonix.com)