



## Imatronic Range

premier & acculase modulatable/ machine vision lyte-mv/dragonfly green/  
**imatronic**/laserlyte/laserlyte-flex/guideline/hawkeye detector/  
firefly green/firefly green mini/thread mountable cameo/15mm blue/  
survelase/survelase maxi/beta tx/bluelyte/varilite lc/dca/microblock/  
accessories/projection lenses/energy efficient/customised solutions.

# iM<sup>ATRONIC</sup>

The Imatronic range of laser diode modules are self contained OEM laser modules that emit dots, lines or crosses. They are designed for industrial applications and offer superior ruggedness and reliability within a range of industry standard packages. Package sizes range from the ultra small 7mm diameter LDM150 up to the 25mm (1 inch) diameter LDL175 laser.

A wide range of laser diodes are available with wavelengths from visible red 635 nm to infra-red 850 nm with powers up to 5 mW. The in-built user adjustable lenses provide a range of elliptical and circular dots as well as lines and adjustable crosses. The in-built driver board provides stable power control over a wide operating temperature range.

The Imatronic range of lasers are generally available from stock for immediate delivery.



# Selection Guide

This catalogue covers our complete Imatronic range and is broken down into various sections. Please use the guide below to go straight to the relevant section.

Section	Product	Description
S.1	Overview	General information on all 6 models in the Imatronic range.
S.2	Product Matrix	Overview of products, powers and wavelengths.
S.3	Specification	Detailed specification for all Imatronics lasers.
S.4	Optical Information	An indepth overview of lensing options available.
S.5	Energy Efficent	Information on our efficient product to which reduces running costs & prolongs battery life without compromising on performance.
S.6	Accessories	A list of optional accessories for the Imatronic range of lasers.
S.7	Dimensional Information	Detailed dimesnional drawings of each Imatronic product.

# S1. Product Overview

## LDM150 (Dot Projection)

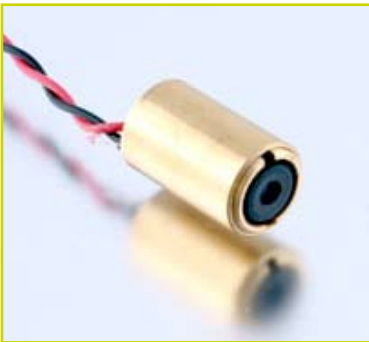


Diameter : 7mm

Length : 25mm

The LDM150 is an extremely compact laser module with a housing diameter of only 7mm. Available in wavelengths' of 635nm and 650nm with power up-to 3mW as standard, it also features the benefits of an isolated housing. A user adjustable plastic aspheric lens produces an elliptical output beam. An optional TTL enable input is also available. The LDM has the smallest housing diameter in the Imatronic range and is suited for applications where space is critical and a cost effect solution is required.

## SIGMA (Dot Projection)



Diameter : 10.4mm

Length : 16.5mm

The Sigma laser is a compact 10.4mm diameter, brass body laser diode module available in wavelengths' of 635nm and 650nm with power up-to 3mW as standard. A user adjustable plastic aspheric lens produces an elliptical output beam. An optional TTL enable input is also available. The Sigma has the smallest housing length in the Imatronic range and is suited for applications where space is critical and a cost effect solution is required.



### LDM115 (Dot Projection)



Diameter : 11mm

Length : 37mm

The LDM115 is an 11mm diameter laser module available in wavelengths of 635, 650, 670, 780 & 850nm with power up to 5mW as standard. It also features the benefits of an isolated housing and user adjustable focus. As a further enhancement the LDM115 can be specified with a TTL input. A choice of two collimating lens are offered. The "G" model use a glass lens with an elliptical output beam, the "P" mode use a plastic lens which produces a circular output beam. An optional line generating optic (LGO) is also available which simply fits over the end of the module and converts the output beam in to a line. Fan angles of 15 degree to 120 degrees are available.

### LDL175 (Dot Projection)

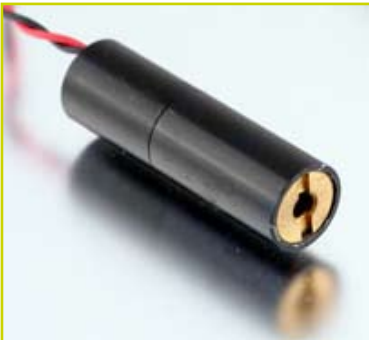


Diameter : 25mm

Length : 58mm or 67mm

The LDL175 laser module is a stand-alone compact laser system, available in 635, 650, 670, 780 & 850nm with powers up to 5mW. It has an industry standard DC power jack input for 3.5 to 5Vdc and can be supplied with a universal power supply which runs on 100-240Vac input. A user adjustable glass lens with an elliptical output beam is fitted as standard. A model fitted with a plastic lens which produces a circular output beam can also be supplied. It features an on/off switch, LED indicator and safety shutter. The NIR & IR versions also features an interlock and switch on delay. The LDL is designed for industrial, laboratory and educational use .

### LCG115 (Cross Projection)

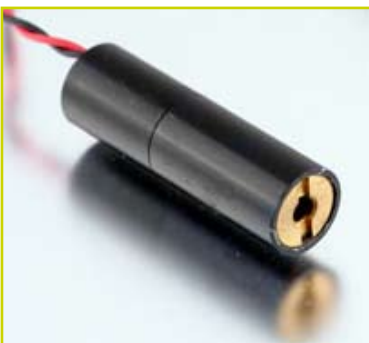


Diameter : 11mm

Length : 37mm

The LCG is an 11mm diameter laser module with an internal cross generator which produces a Gaussian cross with a typical fan angle of 30°. The angle between the lines may also be adjusted to any value between 0° and 90°. It also benefits from being fitted with a more visually intense 635nm laser diode, with output powers of 1 & 3mW. It also features the benefits of an isolated housing and user adjustable focus. An optional TTL enable input is also available.

### LLM115 (Line Projection)



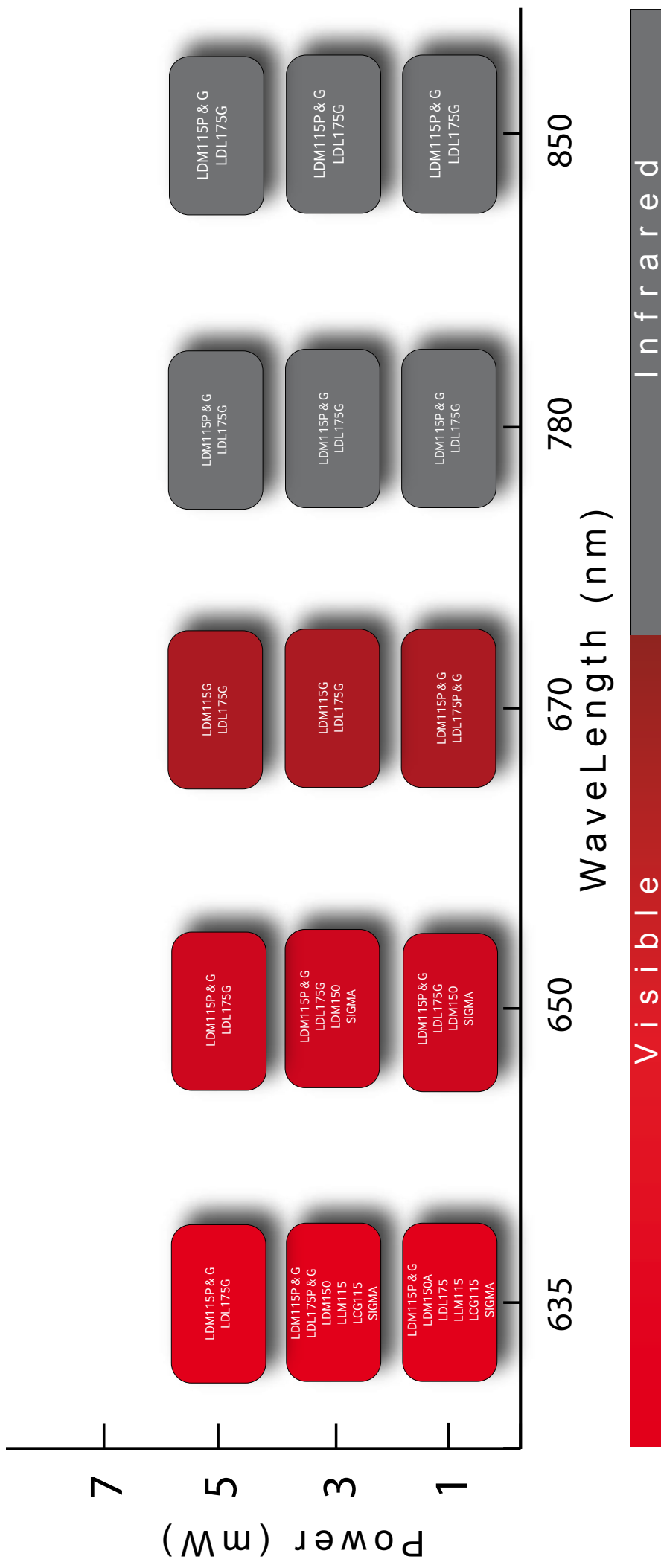
Diameter : 11mm

Length : 37mm

The LLM is an 11mm diameter laser module with an internal line generator which produces a Gaussian line with a typical fan angle of 54°. It also benefits from being fitted with a more visually intense 635nm laser diode, with output powers of 1 & 3mW. It also features the benefits of an isolated housing and user adjustable focus. An optional TTL enable input is also available.

# S2. Product Matrix.

Customised Versions:- If the power or wavelength is not listed then please contact your local distributor or Global Laser directly.



# S3. Specification.

	SIGMA	LDM150	LDL175
<b>Mechanical Specification</b>			
Mass (grams)	8	3	55
Dimensions (mm)	10.41 x 16.5	7 x 25	Visible - 25 x 58
			NIR & IR - 25 x 67
Housing Material	Brass	Anodised Aluminium	Anodised Aluminium
Isolated Body	Yes	Yes	Yes
Input Lead	Red Lead: (+Ve)	Red Lead: (+Ve)	1 via DC Jack Centre Pin: (+Ve) Outer: (0V)
	Black Lead: (0V)	Black Lead: (0V)	
	Blue Lead: Optional TTL	Blue Lead: Optional TTL	
Lead Length (mm)	205	220	n/a
<b>Optical Options</b>			
G Lens	No	No	Yes
P Lens	No	No	Yes
A Lens	No	Yes	No
Sigma Lens	Yes	No	No
Line Generating Optic (LGO)	No	No	No
Internal Line Optic (54° Fan Angle)	No	No	No
Internal Cross Optic (30° Fan Angle)	No	No	No
<b>Environmental Information</b>			
Operating Case Temperature (°C)	-10 to +45*	-10 to +45*	-10 to +45*
Storage Temperature (°C)	-40 to +85	-40 to +85	-40 to +85
Operating Humidity (%RH)	90	90	90
MTTF @ 25°C	>15,000*	>20,000*	>20,000*
<b>Dynamic Output</b>			
Frequency Range	≤1Khz	≤1Kz	N/A
<b>Electrical Specification</b>			
Input Voltage +Ve (Vdc)	+ 3.5 to + 5.0	+ 3.5 to + 5.0	+ 3.5 to + 5.0
Input Voltage GND (Vdc)	0	0	0
TTL Input	Off < 50mV on > 2.0V	Off < 50mV on > 2.0V	n/a
TTL Modulation	n/a	n/a	n/a
Reverse Polarity Protection	Yes	Yes	Yes
Typical Operating Current @ 25°C (mA)	20 to 50*	20 to 50*	20 to 90*
Connector Type	Flying Leads	Flying Leads	DC Jack
Optional Mains Adaptor	No	No	Yes
NOTES			
* Varies with Models			

# S3. Specification.

	LLM115	LCG115	LDM115
<b>Mechanical Specification</b>			
<b>Mass (grams)</b>	9	9	G Lens 9.5
			P Lens 10.5
<b>Dimensions (mm)</b>	11 x 37	11 x 37	G Lens 11 x 37
			P Lens 11 x 47
<b>Housing Material</b>	Anodised Aluminium	Anodised Aluminium	Anodised Aluminium
<b>Isolated Body</b>	Yes	Yes	Yes
<b>Input Leads</b>	Red Lead: (+Ve)	Red Lead: (+Ve)	Red Lead: (+Ve)
	Black Lead: (0V)	Black Lead: (0V)	Black Lead: (0V)
	Blue Lead: Optional TTL Input	Blue Lead: Optional TTL Input	Yellow Lead: Optional TTL Modulation
<b>Lead Length (mm)</b>	230	230	215
<b>Optical Options</b>			
<b>G Lens</b>	No	No	Yes
<b>P Lens</b>	No	No	Yes
<b>A Lens</b>	No	No	No
<b>Sigma Lens</b>	No	No	No
<b>Line Generating Optic (LGO)</b>	No	No	Yes
<b>Internal Line Optic (54° Fan Angle)</b>	Yes	No	No
<b>Internal Cross Optic (30° Fan Angle)</b>	No	Yes	No
<b>Enviromental Information</b>			
<b>Operating Case Temperature (°C)</b>	-10 to +45*	-10 to +45*	-10 to +45*
<b>Storage Temperature (°C)</b>	-40 to +85	-40 to +85	-40 to +85
<b>Operating Humidity (%RH)</b>	90	90	90
<b>MTTF @ 25°C</b>	>20,000*	>20,000*	>20,000*
<b>Dynamic Output</b>			
<b>Frequency Range</b>	≤1Khz	≤1Kz	≤300Kz
<b>Electrical Specification</b>			
<b>Input Voltage +Ve (Vdc)</b>	+ 3.5 to + 5.0	+ 3.5 to + 5.0	+ 3.5 to + 5.0
<b>Input Voltage GND (Vdc)</b>	0	0	0
<b>TTL Input</b>	Off < 50mV on > 2.0V	Off < 50mV on > 2.0V	n/a
<b>TTL Modulation</b>	n/a	n/a	Off < 50mV on > 2.0V
<b>Reverse Polarity Protection</b>	Yes	Yes	Yes
<b>Typical Operating Current @ 25°C (mA)</b>	20 to 50*	20 to 50*	20 to 90*
<b>Connector Type</b>	Flying Leads	Flying Leads	Flying Leads
<b>Optional Mains Adaptor</b>	No	No	No
			NOTES *Varies with Models

# S4. Optical Information.

## Lens Information

The Imatronic laser modules are available in the following lens types.

<b>G Lens Type</b>	Glass Lens The glass lens is a high quality lens producing fine spots. The lens provides high stability over extremes of temperature and is immune to damages such as scratches
<b>P Lens Type</b>	Plastic Lens The long focus plastic lens with a low numerical aperture yields good quality circular collimated beams over larger distances.
<b>A Lens Type</b>	Aspheric Plastic Lens High performance general purpose lens producing good quality spots. Suitable for the range of small body modules only (LDM150 only).

	G Lens	P Lens	A Lens	Sigma
<b>Focus Range</b>	35mm to infinity	150mm to infinity	50mm to infinity	35mm to infinity
<b>Beam Size @ Aperture (mm)</b>	4 x 2*	5 x 5*	3 x 1*	4 x 1*
<b>Beam Divergence (mrad)</b>	<0.5	<0.5	<0.5	<1.2
<b>Bore Sighting (mrad)</b>	<25	<25	<25	<25

\* *Varies with model*

## Optional Optical Extras

The LDM115 has the option of a LGO lens which allows the LDM115 to emit a line projection. The LGO is designed to simply slip over the end of the LDM115 and is secured in place by tightening a small locking screw. The focus position of the line is adjusted by rotating the lens on the LDM115 module prior to the installation of the LGO to give a highly defined thin line of laser light.



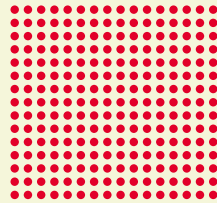
<b>Fan Angle</b>	15°, 28°, 40°, 60° & 120°
<b>Operational Wavelength (nm)</b>	630 to 850
<b>Typical Line Width @ 1 Metre (mm)</b>	0.75
<b>Length (mm)</b>	24
<b>Diameter (mm)</b>	17
<b>Mass</b>	8
<b>Length With LDM115 (grams)</b>	51
<b>Diameter With LDM115 (mm)</b>	17
<b>Mass With LDM115 (grams)</b>	17.5

# Projection Options.

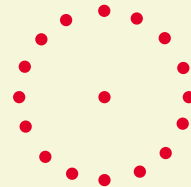
A range of DOE's (diffractive optical elements) are available to provide various patterns such as crosses, circles & dot matrices for applications such as 3D Mapping, surface texture analysis, alignment & general machine vision applications. Please see projection lens datasheet for further information.



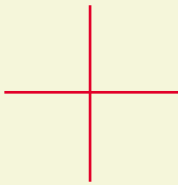
Circle with center dot



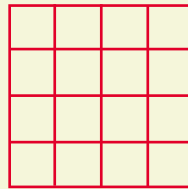
Dot Matrix



Dot Circle



Cross



Grid



Multiple Lines



# S5. Energy Efficient.

Selected products in the Imatronic range are the first to offer our new energy efficient technology. Ideal for alignment applications, this new technology reduces the energy required to power the laser by up to 50%, whilst retaining the same visual performance as a standard laser.

Reducing the energy consumption not only helps in preserving the environment, but also reduces costs and increases battery lifetime therefore nicely complimenting mobile applications.

# S6. Accessories.

## **Mains Power Adaptor (LDL175 only)**

The LDL can be supplied with a mains adaptor which runs on 110-240Vac input via an IEC mains lead (supplied) and has one output to power the laser (for more information please see our accessories datasheet). A lead to connect the LDL175 to the power adaptor is also required. The standard length is 1.5 meters. If you require a custom lead length please contact us.



## **Mounting Options (LDM115, LCG115 & LLM115)**

The optional heavy duty mounting clamp allows the LDM115, LCG115 and LLM115 range to be securely fixed at any required direction or angle. The base plate has a series of threaded holes which allows the clamp to be fixed directly onto a machine or workbench.



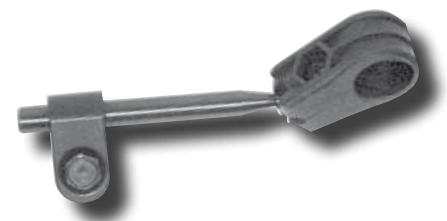
## **Magnetic Base**


A magnetic base is also available which allows the heavy duty clamp to be magnetically attached to a ferrous surface, negating the need for any mounting holes.



## **MK1 Mounting Kit (LDM115, LCG115 & LLM115)**

The MK1 mounting kit is compatible with the LDM115, LCG115 and LLM115 lasers. The laser clamp rotates horizontally through 360 degrees and vertically through 180 degrees and the mounting post allows vertical movement.

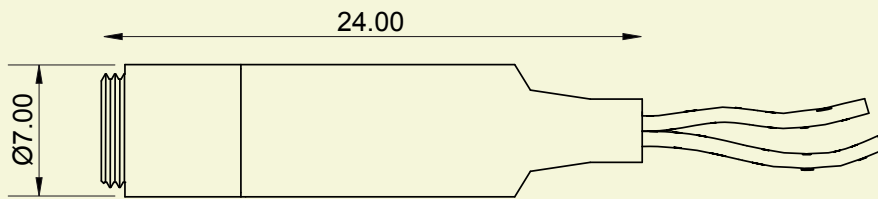




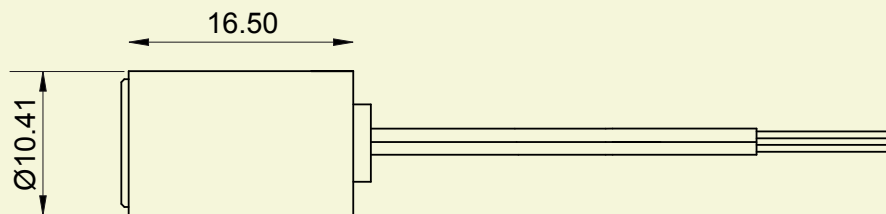
For More information about any of our  
other products please visit our website  
@ [www.globallasertech.com](http://www.globallasertech.com)

# S7. Dimensional Information.

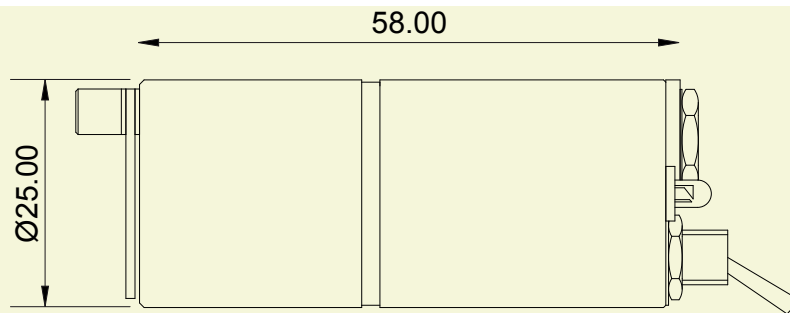
LDM150



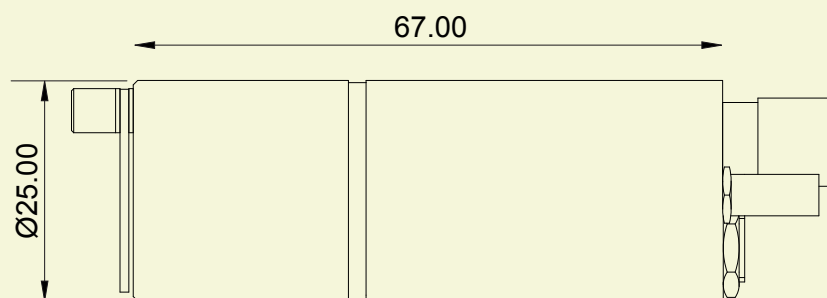
SIGMA



LDL175

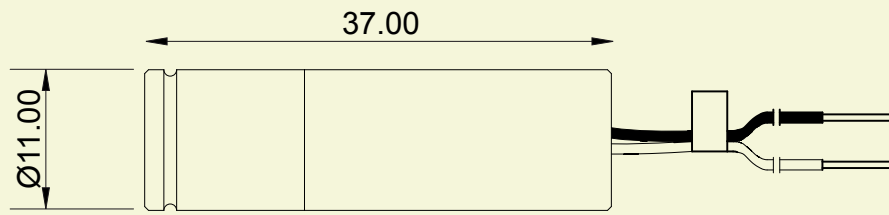


LDL175 (With Interlock)

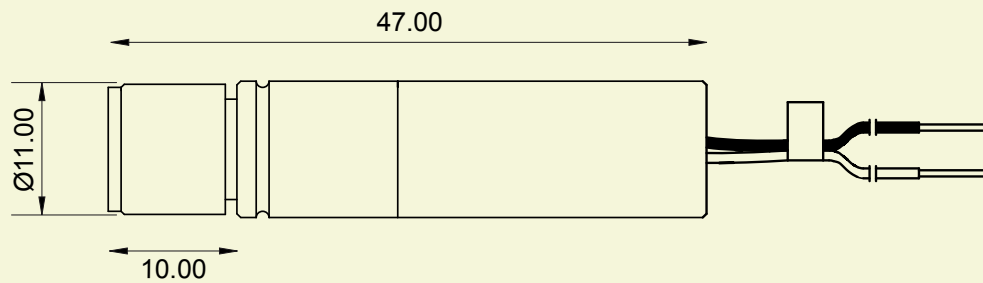


# S7. Dimensional Information.

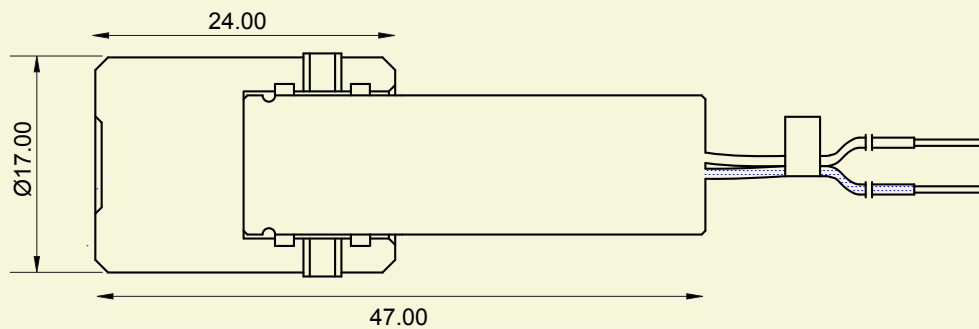
LDM115



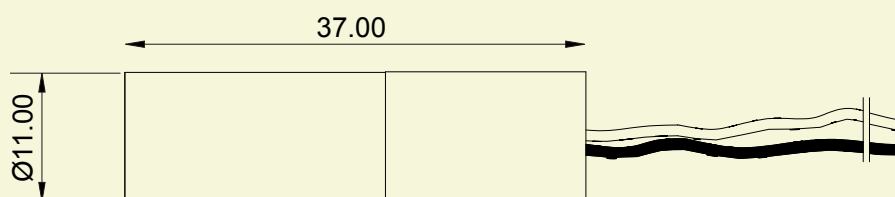
LDM115 Fitted With P Lens



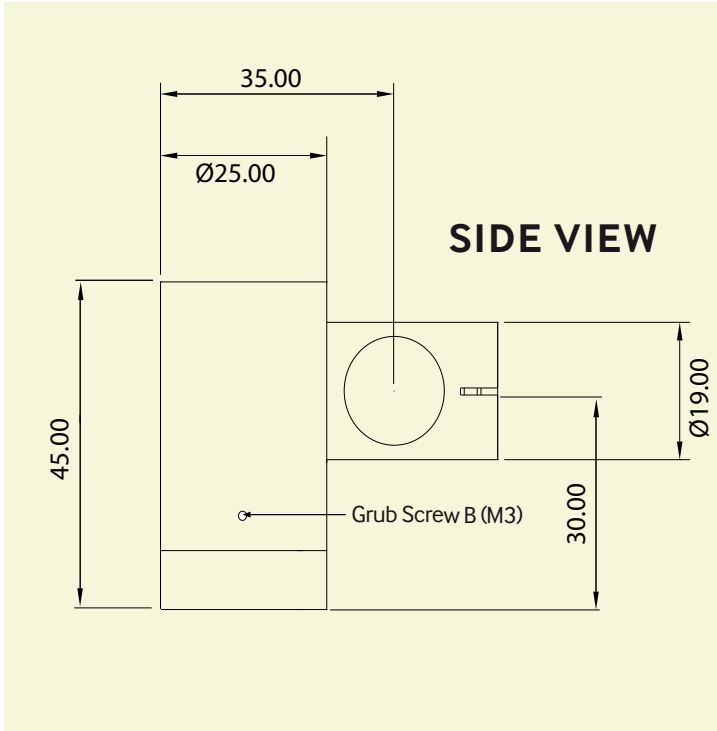
LDM115 fitted With LGO



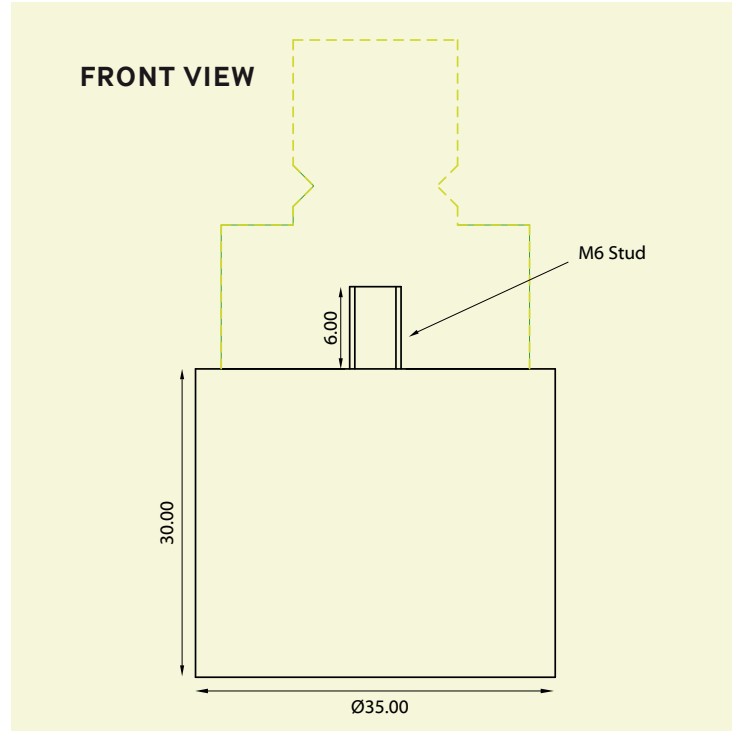
LLM & LCG



## Heavy Duty Mounting Clamp



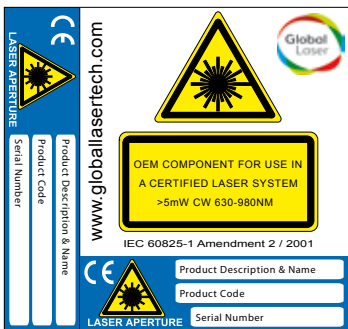
## Magnetic Base



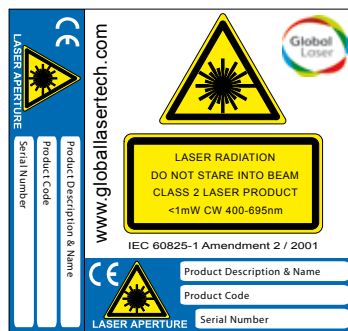
*Drawings are not to scale*

# Laser Safety.

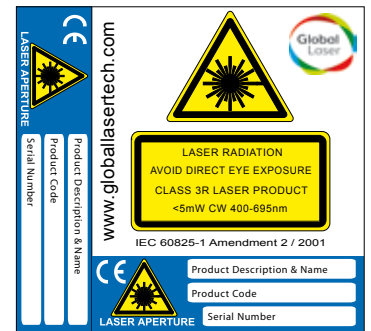
Our lasers are compliant to IEC 60825-1 standards. For further information please contact us.



OEM Laser Label



Class 2 Label



Class 3R Label

# Notes.

Please Note: Global Laser reserve the right to change descriptions and specifications without notice.



For further information about any of our products please contact your local distributor or you can contact Global Laser in the UK. Your Local Distributor is:

T: +44 (0)1495 212213  
F: +44 (0)1495 214004  
E: [sales@globallasertech.com](mailto:sales@globallasertech.com)  
[www.globallasertech.com](http://www.globallasertech.com)

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