



**LaserLyte Alignment System**  
*Red Alignment Lasers*



The LaserLyte Alignment System is a unique, plug and play system suitable for a wide range of alignment applications, including positioning of materials for garments, cloth, paper, wood and metal. A separate application guide is available. For a complete solution the system can also be provided with a range of mounting accessories and laser safety glasses (see section on Accessories).

The system has a wide range of projections including variable intensity dot, adjustable line and variable intersecting angle cross, which combined with user adjustable focus allows the system to meet any number of applications. A wide range of wavelengths and intensities are available in order to maximise the visual appearance of the projection even against the darkest materials.

The V Range has four power ranges from standard power (650nm, 5mW) to ultra bright (635nm, 15mW). This combined with six projections ranging from dots to crossed lines. A unique focus mechanism also allows the user to adjust the focus without removing any optics.

A range of mounting brackets, electrical leads and power supplies allow the system to provide a complete solution, ready to use with no previous laser experience required.

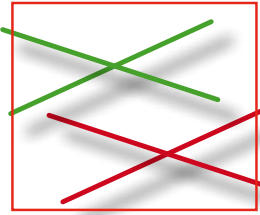


# Selection Guide

This catalogue covers the LaserLyte Range of red lasers and is broken down into various sections. Please use the guide below to go straight to the relevant page.

Page	Product	Description
<b>3</b>	Features	An in-depth look at the features.
<b>3</b>	Model Overview	List of wavelenths, powers and projections options available.
<b>4</b>	Specifications	Full specification for the LaserLyte Range.
<b>5-6</b>	Optical Data	Line length, thickness and spot size information.
<b>7</b>	Fan Angle & Working Distance	Using the LaserLyte Alignment System at different angles and distances.
<b>8-9</b>	Optional Accessories	A list of accessories available and part numbers.
<b>10</b>	Ordering	What you get when you purchase a LaserLyte.
<b>11</b>	Laser Safety, Quality and Warranty	Laser safety advice and classifications. Quality and warranty information.
<b>12</b>	Mechanical Dimensions	Mechanical drawings for the LaserLyte.

# Features



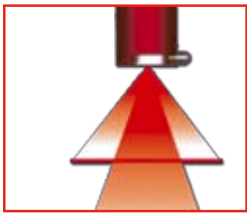
## Multiple Projections & Brightness

The LaserLyte Alignment System has various power and wavelength outputs from 650nm 5mW up to 635nm, 15mW). Each one has a wide range of different projections from dots to variable intersecting crosses enabling them to meet a wide range of alignment applications.



## Adjustable Focus

The V range has a unique user adjustable focus control which allows the user to focus (vary the thickness of the projection) the laser at any required distance without the inconvenience of remove any projection lens. A focus key is supplied to enable this.



## Adjustable Projections






















A wide range of the LaserLyte modules feature an adjustable projection control, this allows the user to vary projection of the laser such as the intensity of the dot, the length of the line and adjust the intersection angle of the cross to produce a 90° cross at any mounted position. (See model overview for further details).



## Plug & Play

The LaserLyte system has been designed so that the user can operate the system efficiently and effectively via simple 2.5mm DC connector jack plugs.

# Model Overview

						
	<b>Dot (D)</b>	<b>Dot With Variable Intensity (Dvi)</b>	<b>Variable Length Line (VLL)</b> <i>Fan Angle 30° to 90°</i>	<b>Long Line With Dot (LL+D)</b> <i>Fan Angle 30° to 90°</i>	<b>Intersecting Crossed Lines (RXL)</b> <i>Fan Angle 55°</i>	<b>Small Cross With Variable Intensity (Xvi)</b> <i>Fan Angle 9°</i>
<b>Standard Power</b> V5 Range - 650nm 5mW						
<b>Bright Power</b> V3 Range - 635nm 5mW						
<b>Super Bright</b> V2 Range - 635nm 10mW						
<b>Ultra Bright</b> V1 Range - 635nm 15mW						
<b>Key To Projections</b>						
<b>D</b> = Dot; which you can focus to a precise spot at any distance			<b>LL+D</b> = Long 30° to 90° line with central dot enabling both vertical and horizontal alignment			
<b>Dvi</b> = Dot; which you can focus to a precise spot at any distance, and vary the intensity			<b>RXL</b> = Crossed Lines which can be rotated to intersect at any angle, from any angle of mounting			
<b>VLL</b> = Variable Length Line; you can double the length of the line by spreading light from 30° to 90° fan angle			<b>Xvi</b> = Small fixed cross which also has variable intensity			

# Specifications

	V5	V3	V2	V1
<b>Mechanical Information</b>				
Dimensions (mm)	Ø14 x 69			
Housing	Red Anodized Aluminium			
Isolated Body	Yes			
<b>Optical Information</b>				
Diode Power (mW)	5	5	10	15
Wavelength (nm)	650	635	635	635
Laser Class (IEC60825-1:2014)	Dependant on optic fitted *			
Intensity Distribution (Output Beam)	Gaussian			
Focus Range (mm)	180 to infinity			
Delivery Set Focus (mm)	1000 (User Adjustable)			
<b>Environmental Information</b>				
Operating Case Temperature (°C)	-10 to +45			
Storage Temperature (°C)	-10 to +85			
Operating Humidity (%RH)	90			
MTTF @ 25°C (hrs)	≥100,000	≥30,000	≥49,000	≥57,000
<b>Electrical Specifications</b>				
Connector Type	DC Power Jack 2.5mm, Centre pin: 0V, Outer +Ve			
Operating Voltage (Vdc)	+3.5 to 5.0			
Operating Current (mA)	~25	~35	~90	~90
Reverse Polarity Protection	Yes			
Approximate operating time when powered via the Battery Box (Hours)	40	30	11.5	11.5
NOTES * See laser safety table on page 11. All specifications are typical @ 25°C				

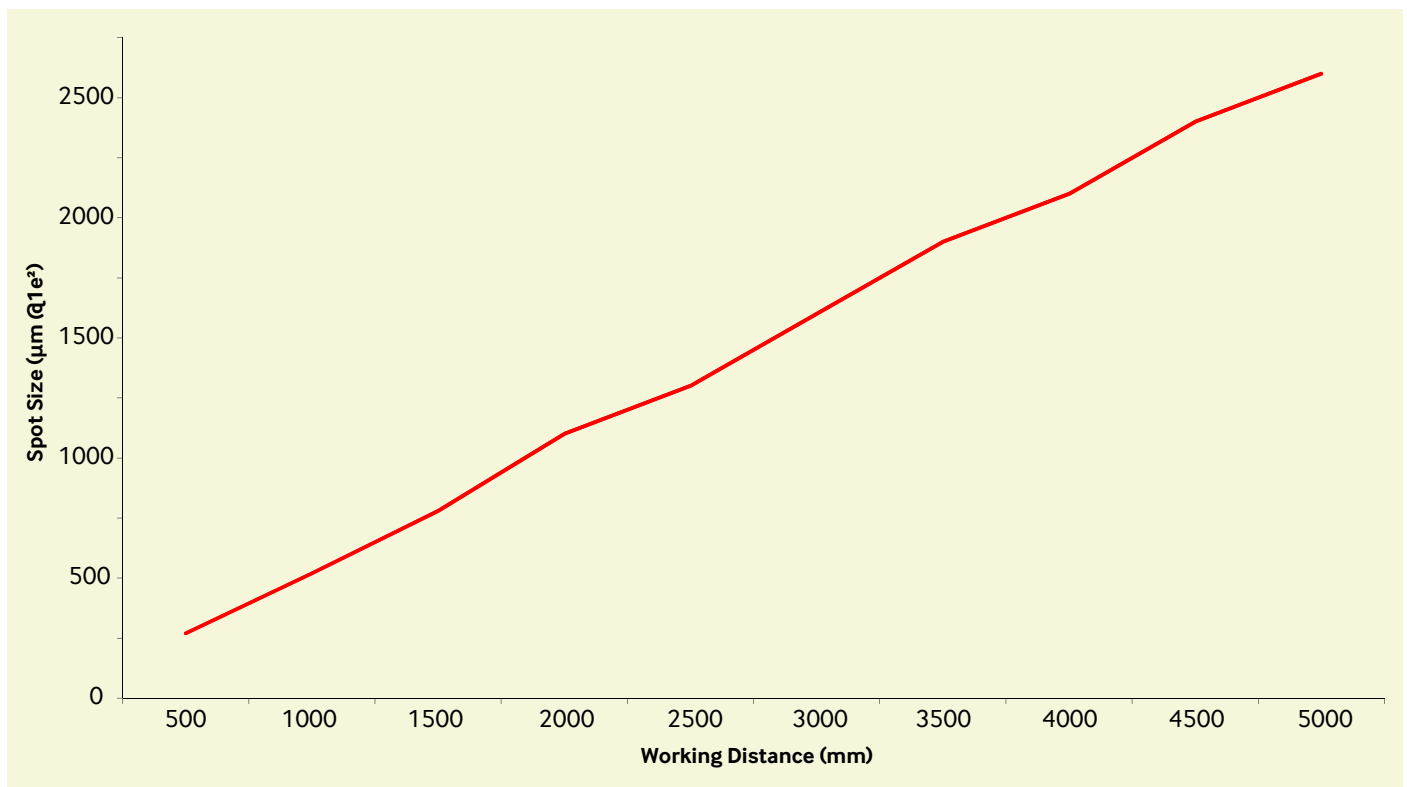
# Optical Data

## Line Length & Visibility Over Distance Table

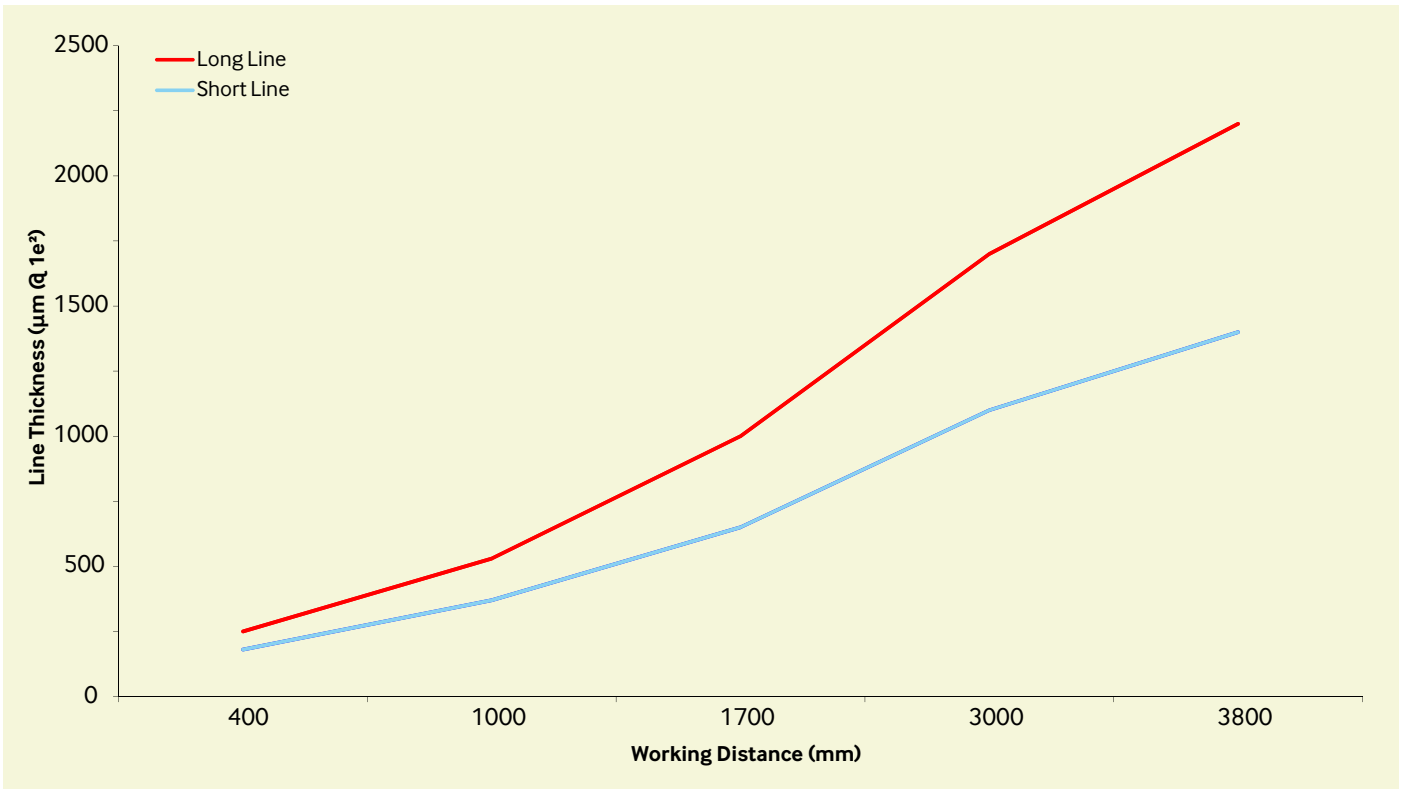
If you require a variable line please look at the table to work out which laser you require to give you a visible line at a specified distance.

		Line Length Required (meters)															
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Distance from object (meters)	0.5	V5VLL	V5VLL														
	1.0	V5VLL	V5VLL	V5VLL													
	1.5	V5VLL	V5VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL									
	2.0	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL								
	2.5	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V2VLL	V2VLL					
	3.0	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V3VLL	V2VLL	V2VLL	V2VLL	V2VLL	V1VLL			
	3.5	V3VLL	V3VLL	V3VLL	V3VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V1VLL	V1VLL	V1VLL		
	4.0	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V1VLL	V1VLL	V1VLL	V1VLL		
	4.5	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL			
	5.0	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL						
	5.5	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL	V1VLL										
	6.0																

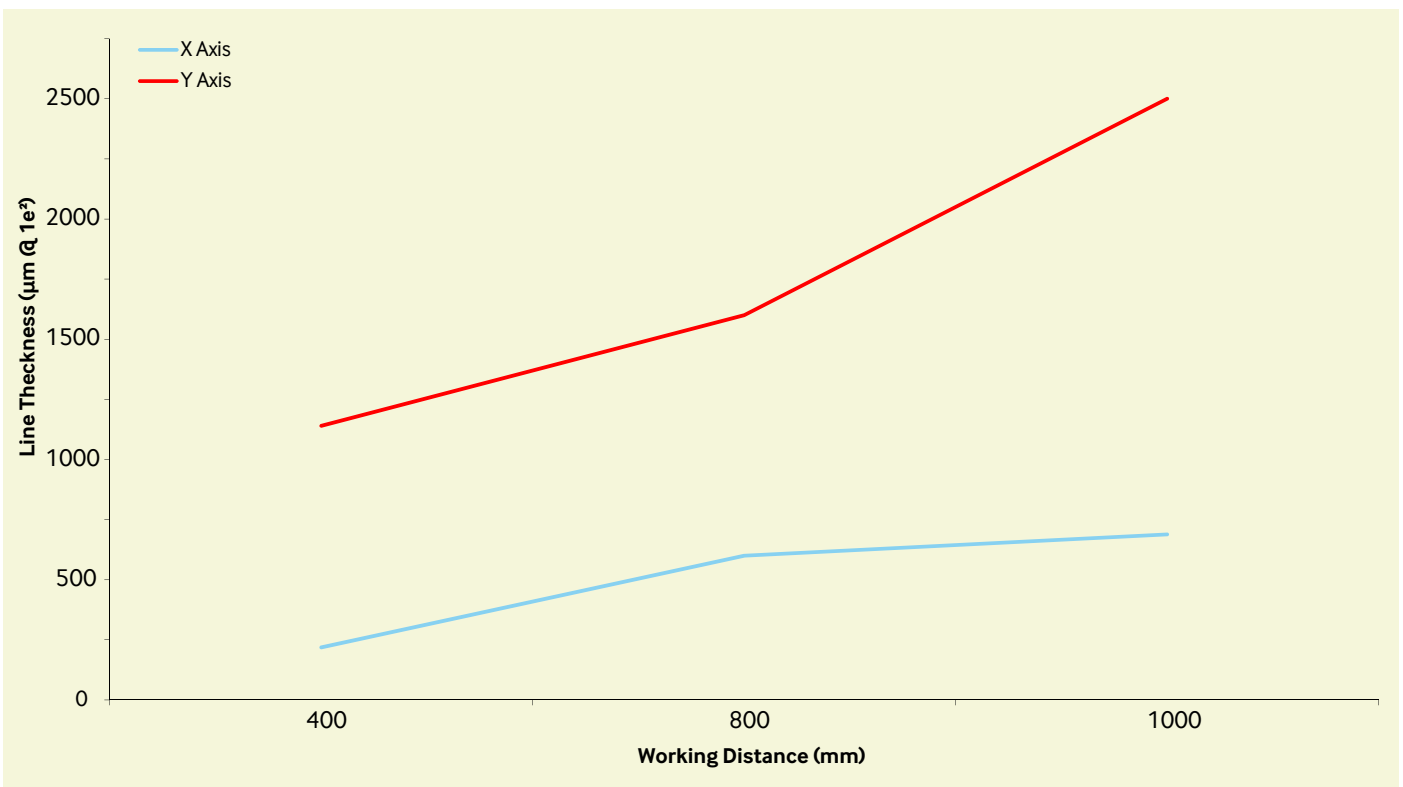
## LaserLyte Dot (D): Spot Size over Working Distance



## LaserLyte Variable Length Line (VLL): Line Thickness over Working Distance



## LaserLyte Intersecting Crossed Lines (RXL): Line Thickness over Working Distance in the X & Y Axis



# Fan Angle & Working Distance

The size of the fan angle (or spread of the beam) will determine how long the line is. When viewed from the same distance and at 90° to the surface a line with a fan angle of 80° will be longer than a line of 30°.

Fan Angle (Degrees)	Distance to Object (mm)	Line Length (mm)
30	100	54
80	100	168

As a guide to relationship between working distance, line length and fan angle please see table below.

		Fan Angle (Degrees)					
		9°	30°	55°	80°	90°	
Distance From Object (mm)	250	39	134	260	420	500	Line Length (mm)
	500	79	268	521	839	1000	
	750	118	402	781	1259	1500	
	1000	157	536	1041	1678	2000	
	1250	197	670	1301	2098	2500	
	1500	236	804	1562	2517	3000	
	1750	275	938	1822	2937	3500	
	2000	315	1072	2082	3356	4000	
	2250	354	1206	2343	3776	4500	
	2500	394	1340	2603	4195	5000	
	2750	433	1474	2863	4615	5500	
	3000	472	1608	3123	5035	6000	
	3250	512	1742	3384	5454	6500	
	3500	551	1876	3644	5874	7000	
	3750	590	2010	3904	6293	7500	
	4000	630	2144	4165	6713	8000	
	4250	669	2278	4425	7132	8500	
	4500	708	2412	4685	7552	9000	
4750	748	2546	4945	7971	9500		
5000	787	2679	5206	8391	10000		
5250	826	2813	5466	8811	10500		
5500	866	2947	5726	9230	11000		



# Optional Accessories

The LaserLyte Alignment system has a wide range of accessories to suit a variety of applications. These include mounting clamps, brackets, power supplies, cables and mounting rails.

## Mounting Clamps



### MK1 Mounting Kit

The MK1 mounting kit is compatible with the V range. The laser clamp rotates horizontally through 360° and vertically through 180° and the mounting post allows vertical movement. The mounting clamp is compatible with Global Laser's mounting brackets and is supplied with two different lengths of machine screws to increase the range of mounting surfaces which can be utilized.



### Heavy Duty Mounting Clamp

The heavy duty clamp has parallel and vertical adjustment which allows the user to aim the laser in any required direction or angle. The base plate of the heavy duty clamp has a series of threaded holes to allow the heavy duty clamp to be securely fastened to a stable surface. An optional magnetic base is also available.



### Pillow Block Bearing Mount

The pillow block bearing mount contains a spherical rolling element that serves as a rotational bearing. Enables quick adjustment of the direction in one quick and easy movement without the need for an Allen key. The bearing also provides enough friction to keep the pointing direction stable.



### Brackets

Brackets are available with holes at regular intervals. These can all be used in conjunction with the above mounting clamps.

B12 - 30cm/12"

B2 - right angled 10cm/4"

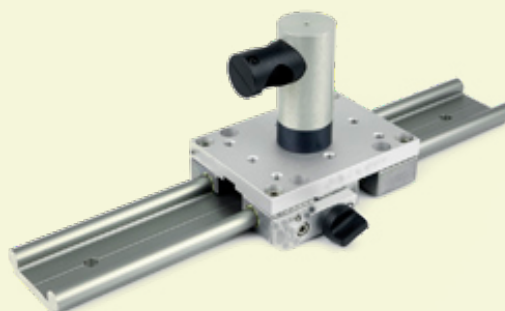
B6 - 15cm/6"

BS - one of each

B4 - 10cm/4"

## Mounting Rails

Options range from the simple slide rail system where carriages can be moved by hand and locked into position, to computer controlled, motor driven systems. All systems incorporate long life/low friction polymer bearings which are self-lubricating, removing the need for messy dirt, attracting oils and greases. All rail systems are also available in stainless steel. This makes the systems ideal for aggressive environments with high levels of dirt and dust or areas subject to wash down or high levels of moisture.



Rail & Mounting Clamp

## Mounting Clamps



### Power Supply

The PS-1 & PS-4 range run on 110-240Vac input via an IEC mains lead (supplied) and have the benefit of a power on LED indicator. An optional key switch allows the power supply output to be switched on/off at the power supply. The PS-1 has one output to power one laser and the PS-4 has four outputs to power four lasers.



### Battery Box Power Supply

The power source is a compact ABS box and operates from three industrial AA batteries and can provide power for up to 70 hours of laser operation (Laser model dependent). A 2.5mm DC jack connector is fitted which is compatible with a wide range of Global Laser products and an on/off switch allows the user to control laser output and battery lifetime.



### 24 Volt In Line Adapter

The 24 Volt in-line adaptor provides a compact reliable solution to power the LaserLyte range from an industry standard 24 Vdc supply. The solid state technology design transforms unregulated dc voltage in the range of 6 to 30Vdc generally found in industry machines to a regulated 5 Vdc supply suitable for the reliable operation of laser modules with the LaserLyte range.



### Power Leads

Additional power leads that connect the laser to a power source can be purchased as additional items. Lengths of 1.5m, 3m, 5m, 10m and 20m are available as standard.

## Laser Safety Glasses

To compliment the LaserLyte Alignment System there are a number of laser safety glasses. These provide a protection or block out for a wide range of wavelengths. Below is an example of some of the available glasses styles. For more information on any of the options please refer to the Laser Safety Glasses Datasheet.



Overglasses Style



Wraparound Style

# Ordering Guide

When ordering directly from Global Laser the following accessories are included as standard:

## LaserLyte V Range

x1 Laser, x1 MK1 Mounting Clamp, x1 1.5m Electrical Lead, x1 Focus Key

## Optional Accessories

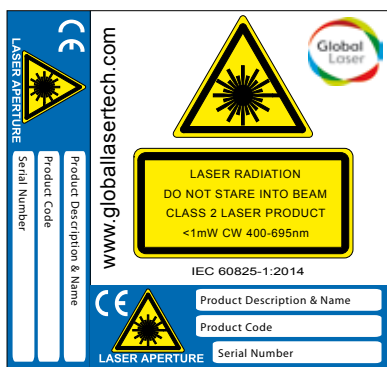
Below is a complete list including part numbers of the accessories available to accompany the LaserLyte Alignment systems.

	Part Number	Description
<b>Mounting Accessories</b>		
<b>MK1 Mounting Clamp</b>	5000-50-000	MK1 LaserLyte Mounting Kit
<b>Heavy Duty Mounting Clamp</b>	1240-02-000	Heavy Duty Mounting Clamp 14mm - LaserLyte
<b>Magnetic Base</b>	1235-00-000	Magnetic Base with M6 Stud
<b>Pillow Block Bearing Mount</b>	1237-01-000	Pillow Block Bearing Mount 14mm - LaserLyte
<b>Brackets</b>	5000-55-000	B2 - 5cm/2" Bracket
	5000-54-000	B4 - 10cm/4" Bracket
	5000-59-000	B6 - 15cm/6" Bracket
	5000-52-000	B12 - 30cm/12" Bracket
	5000-51-000	Set of 4 Brackets
<b>Electrical Options</b>		
<b>1 Outlet Power Supply (5V)</b>	5026-15-000	PS-1 with UK Mains Lead
	5026-16-000	PS-1 with US Mains Lead
	5026-17-000	PS-1 with Euro Mains Lead
<b>4 Outlet Power Supply (5V)</b>	5026-45-000	PS-4 with UK Mains Lead
	5026-46-000	PS-4 with US Mains Lead
	5026-47-000	PS-4 with EURO Mains Lead
<b>Battery Box Power Supply for 1 Laser</b>	5040-00-000	LaserLyte Battery Box (Including Batteries)
<b>24 Volt Adaptor</b>	5028-06-000	30V to 5V Converter Flying Leads & DC Jack Plug 500mm
<b>Power Leads</b>	5200-28-000	1.5m Power Lead
	5200-30-000	3m Power Lead
	5200-59-000	5m Power Lead
	5200-34-000	10m Power Lead
	5200-67-000	20m Power Lead
<b>Laser Safety Glasses &amp; Enhancement Glasses</b>		
<b>Red Laser Safety Glasses</b>	1990-04-000	630-700nm Laser Safety Glasses - Wraparound Style
	1991-00-000	630-700nm Laser Safety Glasses - Overglasses Style
<b>Red Laser Enhancement Glasses</b>	1997-00-000	Red Laser Enhancement Glasses - Wraparound Style
	1997-01-000	Red Laser Enhancement Glasses - Overglasses Style

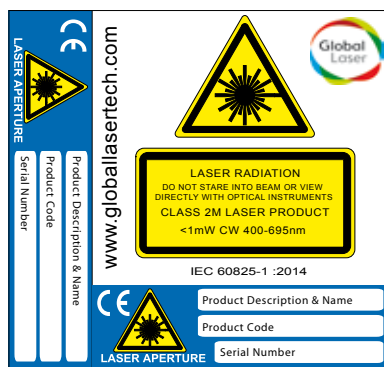
# Laser Safety

Model	Laser Power Out Conforms to
V3D, V3DVi, V5D V5DVi,	Class 2
V2VLL, V3VLL, V5VLL, V3LL+D, V3VLL+D, V3RXL, V5RXL, V3Xvi, V5Xvi	Class 2M
V1VLL,	Class 3R

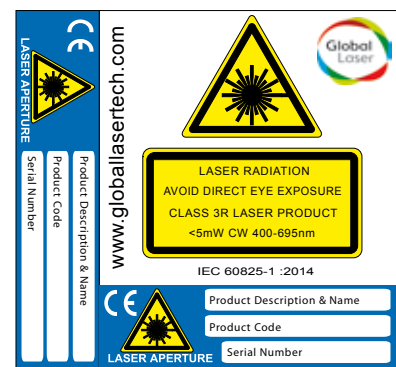
Our lasers are compliant to IEC60825-1:2014 standards. The lasers fall within one of the following classifications depending on power, wavelength and fan angle. Example of the labels are shown below.



Class 2 Laser Label



Class 2M Laser Label



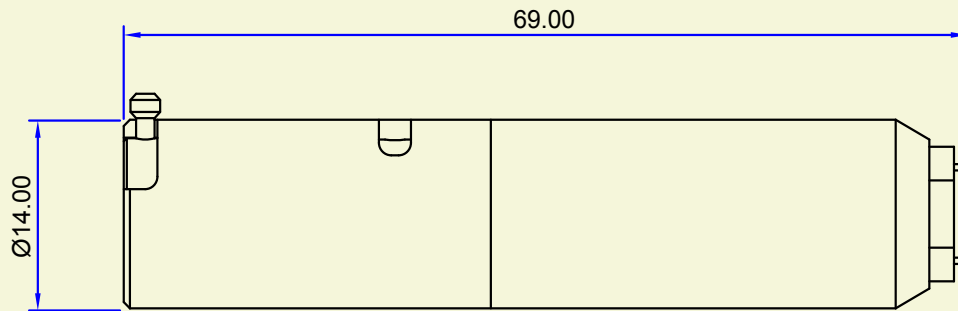
Class 3R Laser Label

## Quality & Warranty

The LaserLyte range is supplied with a 12 month parts and labour warranty. Our manufacturing operations are certified to ISO9001:2015.

# Mechanical Dimensions

## V - LaserLyte Laser Diode Module



Drawings not to scale



Manufacturing  
Operations Certified  
to ISO9001

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