



LaserLyte Alignment System

Green 515nm Alignment Lasers

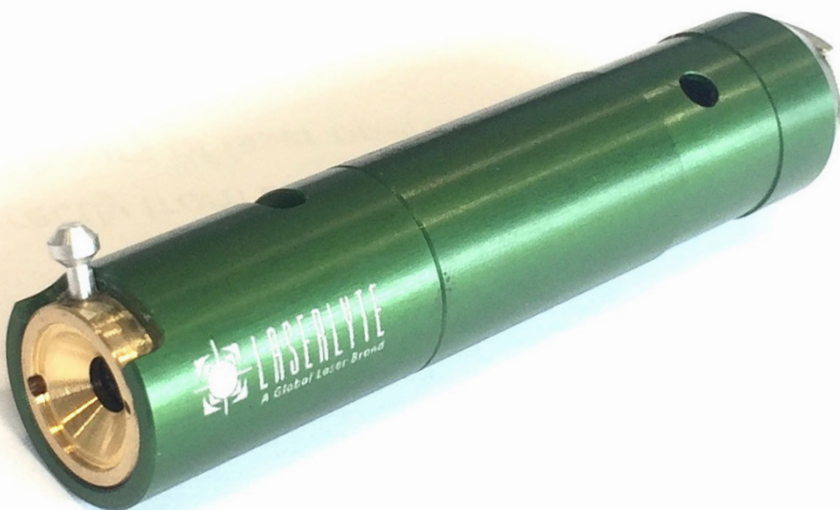


The LaserLyte Alignment System is a unique, user adjustable, plug and play system suitable for a wide range of applications. These include alignment, positioning of materials for garments, cloth, paper, wood and metal or where a guide is needed for such applications such as band saws and circular saws.

The latest G version utilises a semiconductor green laser diode to provide projections in highly visible green light. This allows the projections to be viewed in high ambient light levels or at longer distances whilst keeping laser power levels within a safe laser classification. The laser wavelength of 515nm is 3 times brighter to the human eye than the equivalent power in 635nm.

The G Range has two power ranges, the G10 (515nm, 10mW) and G50 (515nm, 50mW). The G10 power range offers six projections ranging from dots to crossed lines. A unique focus mechanism also allows the user to adjust the focus without removing any optics or exposing the user to the raw laser beam. This ensures all G10 models conform to Class 2 and 2M. The G50 models offer higher power levels for the most demanding applications and conforms to laser class 3R.

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

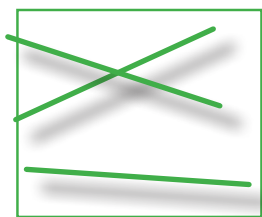


Selection Guide

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

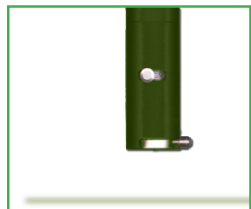
Section	Product	Description
S1	Features	An in-depth look at the features.
S2	Model Matrix	List of powers and projections options available.
S3	Specifications	Full specification for the LaserLyte Alignment System.
S4	Optical Data	Line length, thickness and spot size information.
S5	Fan Angle & Working Distance	Using the LaserLyte Alignment System at different angles and distances.
S6	Optional Accessories	A list of accessories available and part numbers.
S7	Ordering Guide	What you get when you purchase a LaserLyte.
S8	Laser Safety	Laser safety advice and classifications.
S9	Quality & Warranty	Quality and warranty information.
S10	Mechanical Dimensions	Mechanical drawings for the LaserLyte.

S1. Features



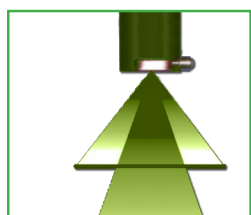
Multiple Projections & Brightness

The Green LaserLyte Alignment System has two power options in the 515nm wavelength. Outputs are the G10 (515nm, 10mW) and G50 (515nm, 50mW). Each one has a wide range of different projections from dots to variable intersecting crosses which enables them to meet a wide range of alignment applications.



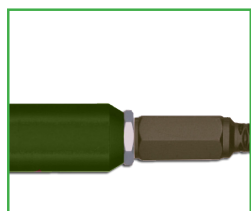
Adjustable Focus

The G 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





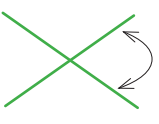









A wide range of the LaserLyte modules feature an adjustable projection control. This allows the user to vary the projection of the laser such as the intensity of the dot, the length of the line and adjust the intersection angle of the cross to produce a 90° cross at any mounted position. *(See model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



Plug & Play

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

S2. Model Overview

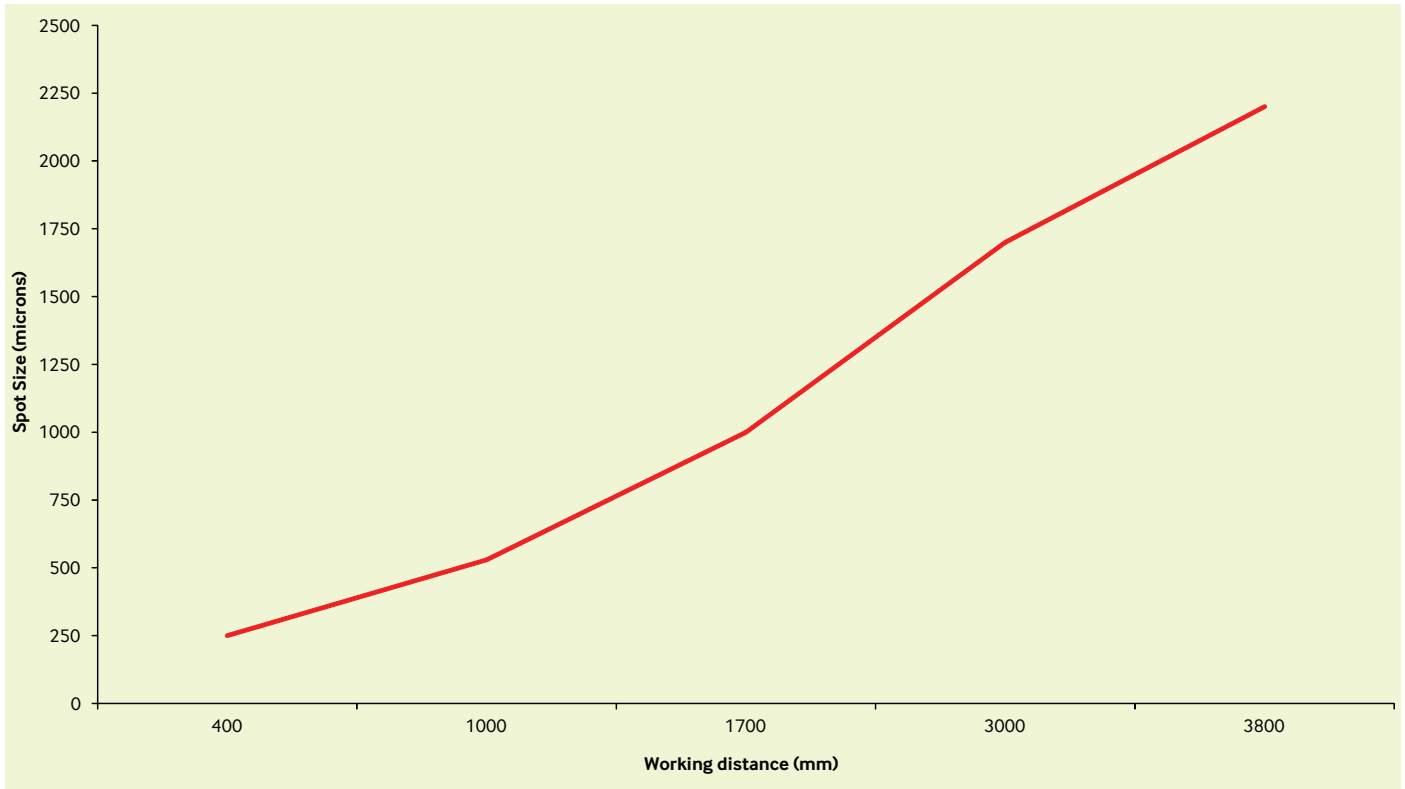
						
	Dot (D)	Dot With Variable In-tensity (Dvi)	Variable Length Line (VLL) <i>Fan Angle 30° to 90°</i>	Long Line With Dot (LL+D) <i>Fan Angle 30° to 90°</i>	Intersecting Crossed Lines (RXL) <i>Fan Angle 55°</i>	Small Cross With Variable Intensity (Xvi) <i>Fan Angle 9°</i>
G10 515nm, 10mW						
G50 515nm, 50mW						
Key To Projections						
D = Dot; which you can focus to a precise spot at any distance			LL+D = Long 30° to 90° line with central dot enabling both vertical and horizontal alignment			
Dvi = Dot; which you can focus to a precise spot at any distance, and vary the intensity			RXL = Crossed Lines which can be rotated to intersect at any angle, from any angle of mounting			
VLL = Variable Length Line; you can double the length of the line by spreading light from 30° to 90° fan angle			Xvi = Small fixed cross which also has variable intensity			

S3. Specifications

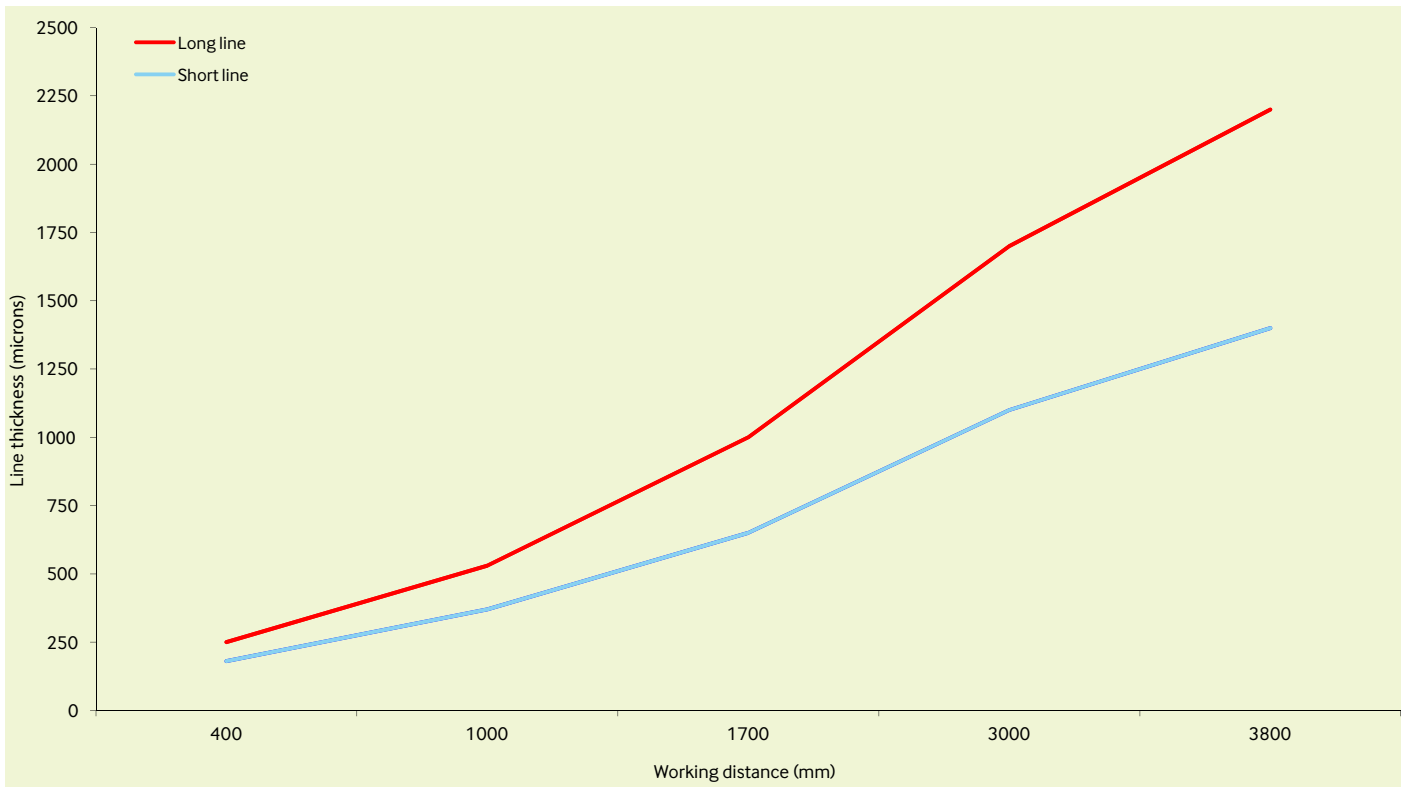
	G10		G50	
Mechanical Information				
Dimensions (mm)	Ø14.15 x 69			
Housing	Green Anodized Aluminium			
Isolated Body	Yes			
Optical Information				
Diode Power (mW)	10		50	
Wavelength (nm)	515			
Laser Class (IEC60825-1 2014)	Dependant on optic fitted *			
Intensity Distribution (Output Beam)	Gaussian			
Focus Range (mm)	100 to infinity			
Delivery Set Focus (mm)	1000 (User Adjustable)			
Environmental Information				
Operating Case Temperature (°C)	-10 to +55			
Storage Temperature (°C)	-10 to +85			
Operating Humidity (%RH)	90			
MTTF @ 25°C (hrs)	≥40,000		≥20,000	
Electrical Specifications				
Connector Type	DC Power Jack 2.5mm, Centre pin: 0V, Outer +Ve			
Operating Voltage (Vdc)	+10			
Operating Current (mA)	≤ 100		≤ 150	
Reverse Polarity Protection	Yes			
Approximate operating time when powered via the Battery Box (Hours)	11.5		7.5	
NOTES * See laser safety table on page 11. All specifications are typical @ 25°C				

S4. Optical Data

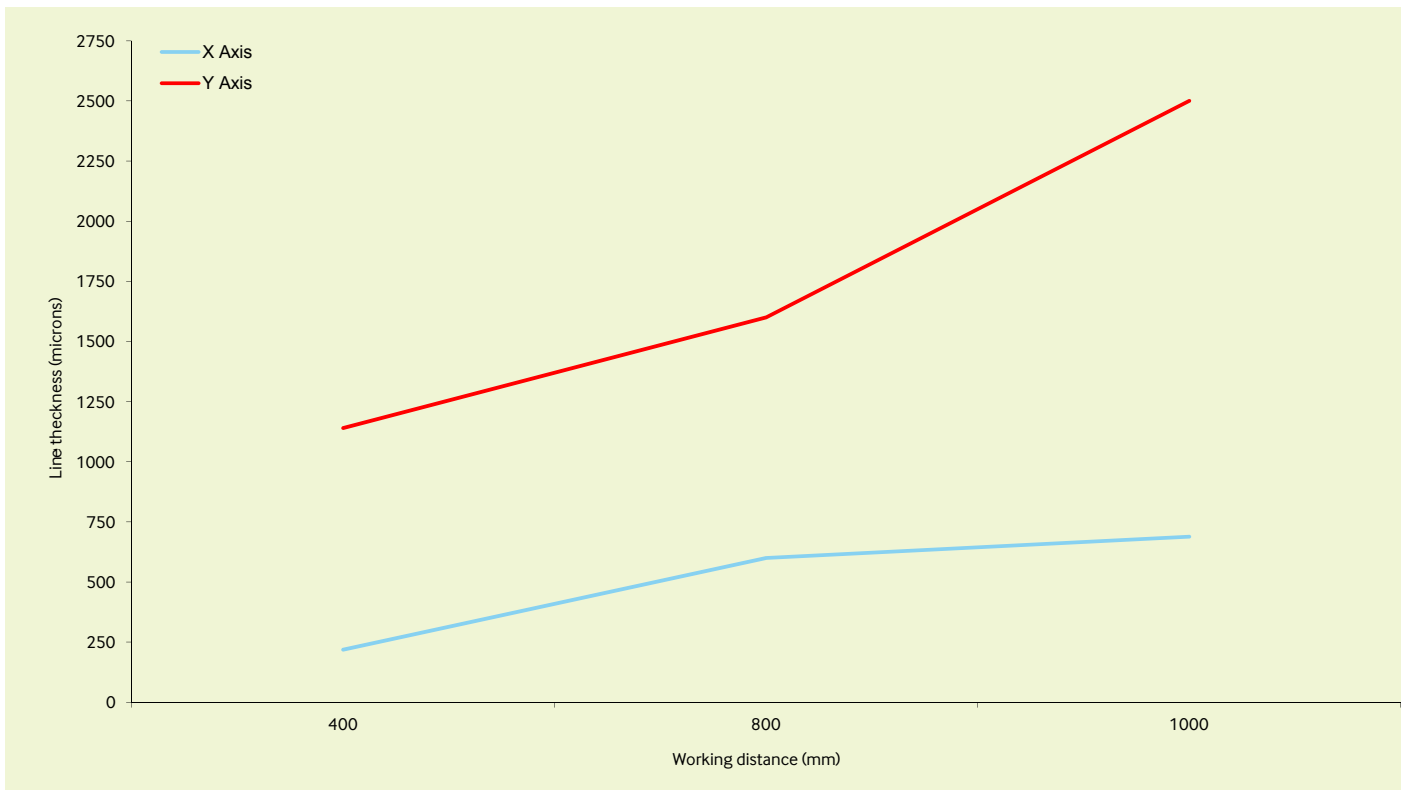
LaserLyte Dot (D): Spot Size over Working Distance



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



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



S5. 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		

S6. 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 G 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"

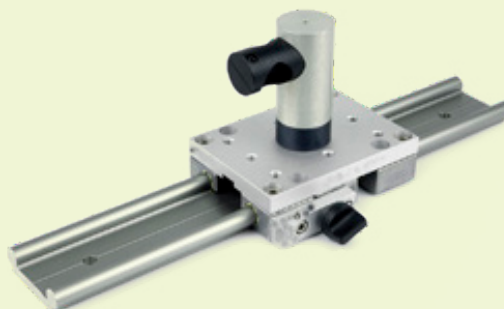
B6 - 15cm/6"

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

Power Supplies & Cables



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 11.5 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 10 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

Green Laser Enhancement Glasses

To compliment our wide range of alignment laser diode modules we have introduced a new range of Laser Enhancement Glasses which enhance projections in the green wavelength range (510nm to 580nm) by blocking light in other wavelengths, thus improving the visibility in outdoors or bright lighting condition's. The glasses also meet ANSI Z87 impact standard.



Green Laser
Enhancement Glasses

Please Note: these are not laser safety glasses, but are conventional safety glasses that enhance the visibility of green wavelengths and do not protect the wearer's eye from the laser. It is recommend that these glass are only used with lasers were the output power conforms to class 2 and 2M.

S7. Ordering Guide

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

LaserLyte G Range

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

Optional Accessories

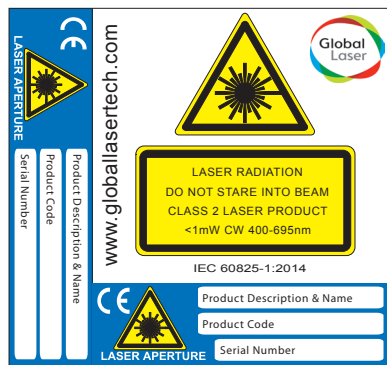
Below is a complete list including part numbers of the accessories available to accompany the LaserLyte Alignment Systems.

	Part Number	Description
Mounting Accessories		
MK1 Mounting Clamp	5000-50-000	MK1 LaserLyte Mounting Kit
Heavy Duty Mounting Clamp	1240-02-000	Heavy Duty Mounting Clamp 14mm - LaserLyte
Magnetic Base	1235-00-000	Magnetic Base with M6 Stud
Pillow Block Bearing Mount	1237-01-000	Pillow Block Bearing Mount 14mm - LaserLyte
Brackets	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
Electrical Options		
1 Outlet Power Supply (10V)	5026-29-000	PS-1 with UK Mains Lead
	5026-30-000	PS-1 with US Mains Lead
	5026-28-000	PS-1 with Euro Mains Lead
	5026-53-000	PS-1 with Aus Mains Lead
4 Outlet Power Supply (10V)	5026-34-000	PS-4 with UK Mains Lead
	5026-35-000	PS-4 with US Mains Lead
	5026-36-000	PS-4 with Euro Mains Lead
	5026-54-000	PS-4 with Aus Mains Lead
Battery Box Power Supply for 1 Laser	5040-02-000	LaserLyte Green Battery Box (Including Batteries)
24 Volt Adaptor	5028-15-000	30V to 10V Converter Flying Leads & DC Jack Plug 500mm
Power Leads	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
Laser Safety Glasses & Enhancement Glasses		
Green Laser Safety Glasses	1991-03-000	395-540nm Laser Safety Glasses - Wraparound Style
	1990-05-000	395-540nm Laser Safety Glasses - Overglasses Style
Green Laser Enhancement Glasses	1997-04-000	Green Laser Enhancement Glasses - Overglasses Style

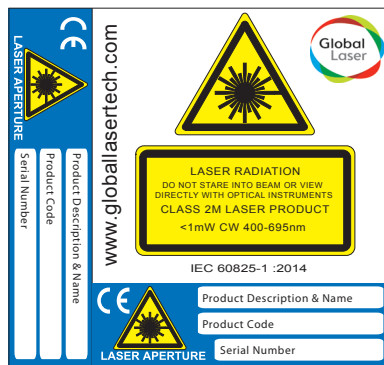
S8. Laser Safety

Model	Classification of the Laser Power Out Conform to
G10D	Class 2
G10VLL, G10RXL, G10Xvi, G10Dvi	Class 2M
G50VLL & G50RXL	Class 3R

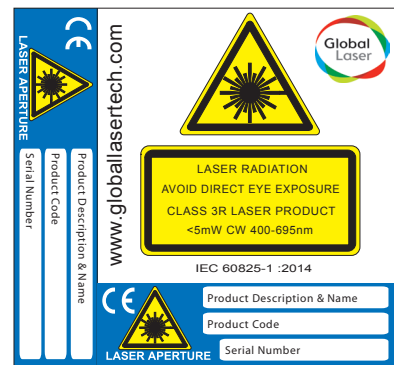
Our lasers are compliant to IEC60825-1:2014 standards. The lasers fall within one of the following classifications depending on power, wavelength and fan angle. Example of the labels are shown below.



Class 2 Laser Label



Class 2M Laser Label



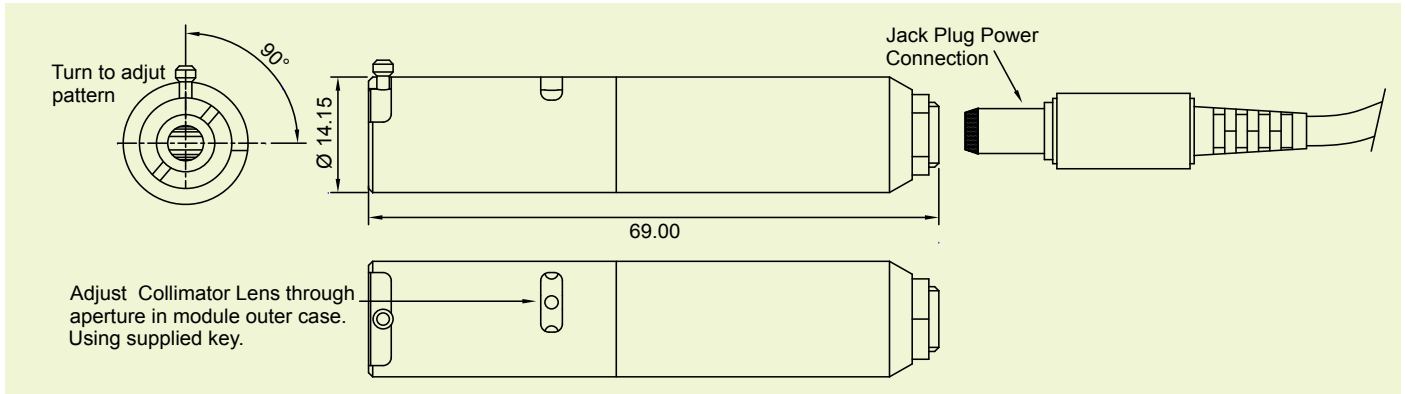
Class 3R Laser Label

S9. Quality & Warranty

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

S10. Mechanical Dimensions

G - LaserLyte Laser Diode Module



Drawings not to scale



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