Global Laser

LaserLyte Alignment System

Red Alignment Lasers

LASERLYTE
A Global Laser Brand

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 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.

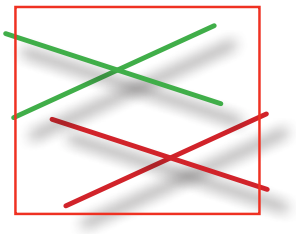
A range of mounts, mounting brackets, electrical leads and power supplies allow the system to provide a complete solution ready to use with no previous laser experience required.

Selection Guide

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

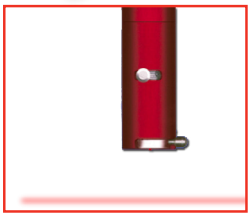
Section	Product	Description
1	Features	An in-depth look at the features.
2	Model Overview	List of wavelenths, powers and projections options available.
3	Specifications	Full specification for the LaserLyte Alignment System.
4	Optical Data	Line length, thickness and spot size information.
5	Fan Angle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

Features



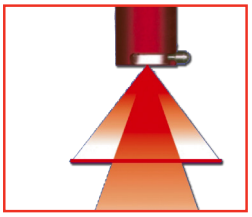
Multiple Projections & Brightness

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



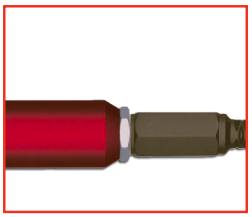
Adjustable Focus

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

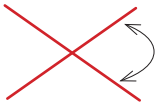
A wide range of the LaserLyte modules feature an adjustable projection control. This allows the user to vary the projection of the laser such as the intensity of the dot, the length of the line and adjust the intersection angle of the cross to produce a 90˚ cross at any mounted position. *(See model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

Model Overview

	Dot (D)	 Dot With Variable Intensity (DVI)	Variable Length Line (VLL) *Fan Angle 30° to 90°*	 Long Line With Dot (LL+D) *Fan Angle 30° to 90°*	 Intersecting Crossed Lines (RXL) *Fan Angle 55°*	 Small Cross With Variable Intensity (Xvi) *Fan Angle 9°*
Standard Power V5 Range - 650nm 5mW	✓	✓	✓	✓	✓	✓
Bright Power V3 Range - 635nm 5mW	✓	✓	✓	✓	✓	✓
Super Bright V2 Range - 635nm 10mW			✓			
Ultra Bright V1 Range - 635nm 15mW			✓		✓	

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

Specifications

	V5	V3	V2	V1
Mechanical Information				
Dimensions (mm)	Ø14.15 x 69			
Housing	Red Anodized Aluminium			
Isolated Body	Yes			
Optical Information				
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)			
Environmental Information				
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
Electrical Specifications				
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

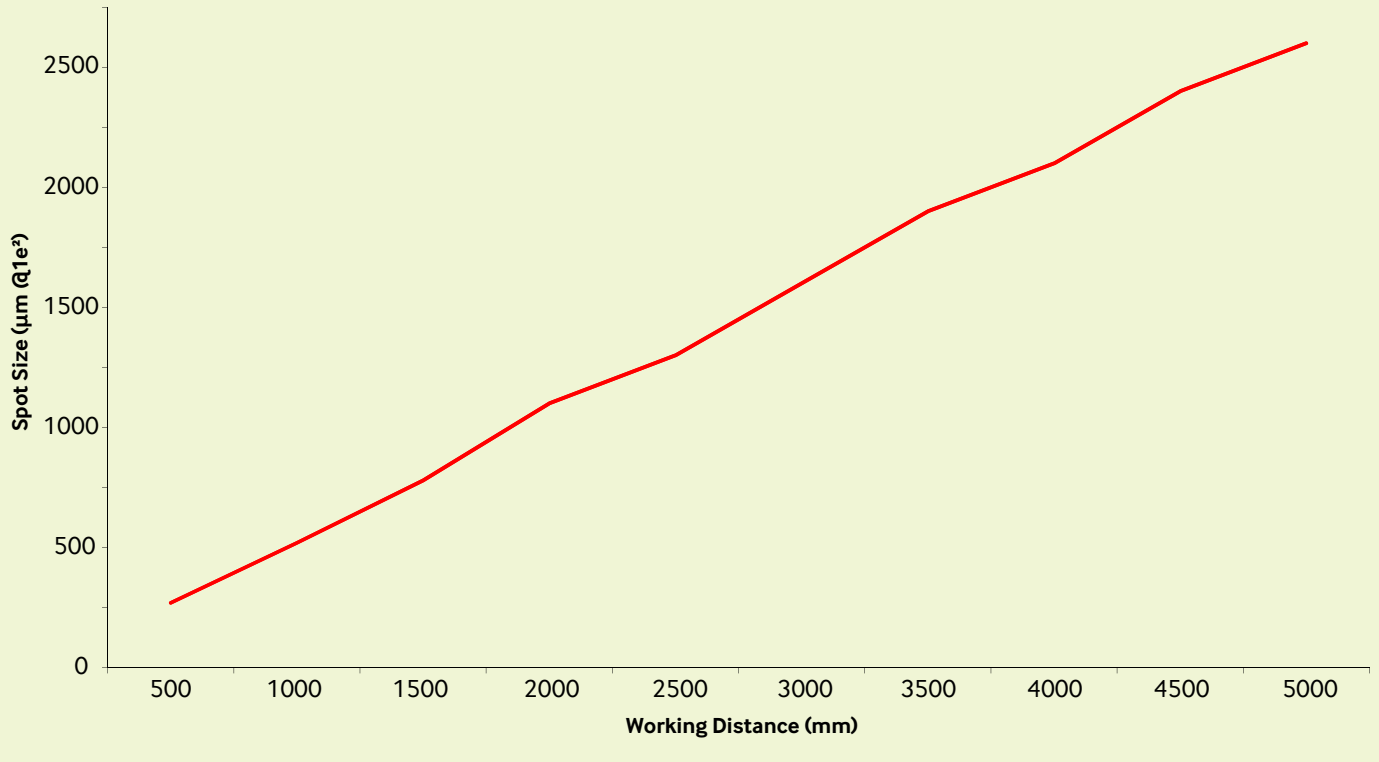
Optical Data

Line Length & Visibility Over Distance Table

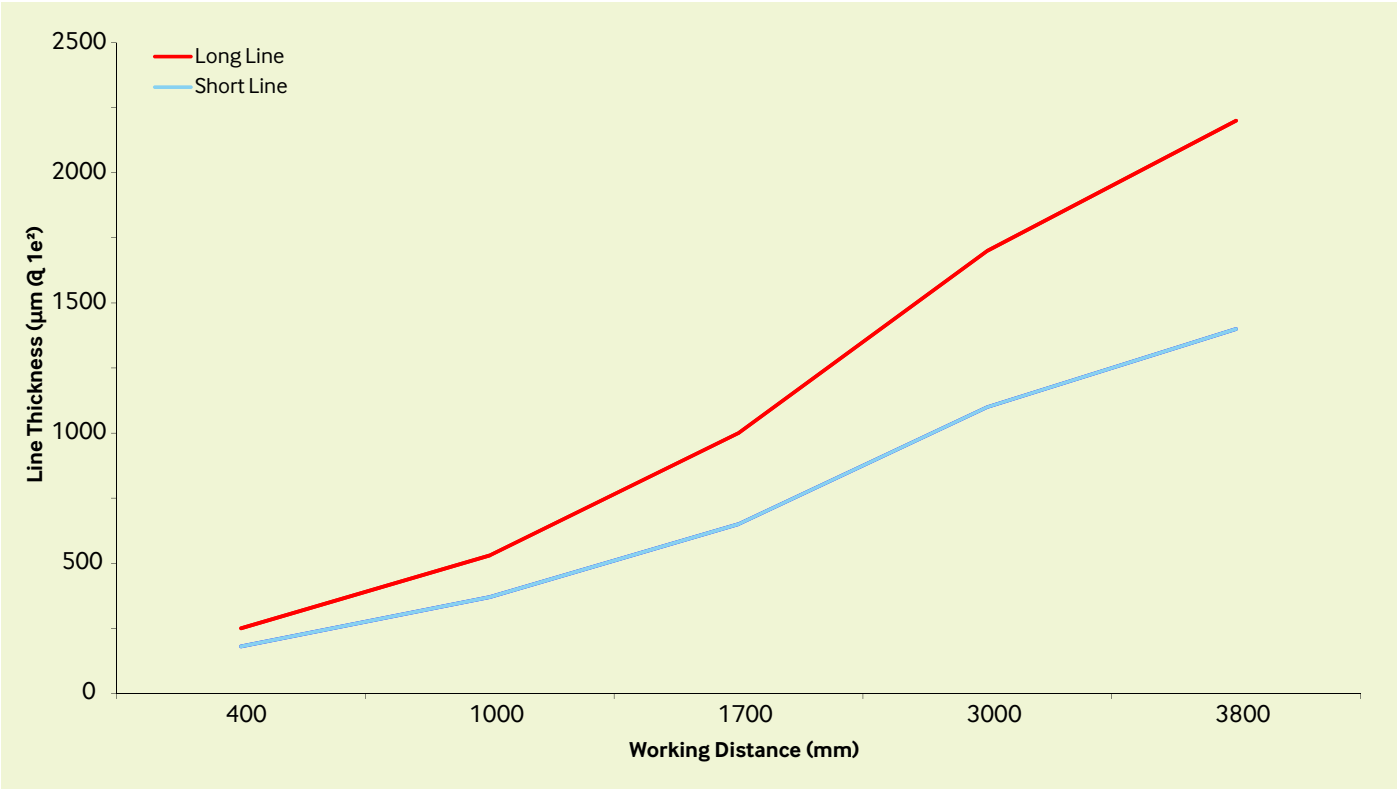
If you require a variable line please look at the table to work out which laser you require to give you a visible line at a specified distance.

Distance from object (meters) \ Line Length Required (meters)	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
0.0															
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		
4.5	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	V2VLL	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															

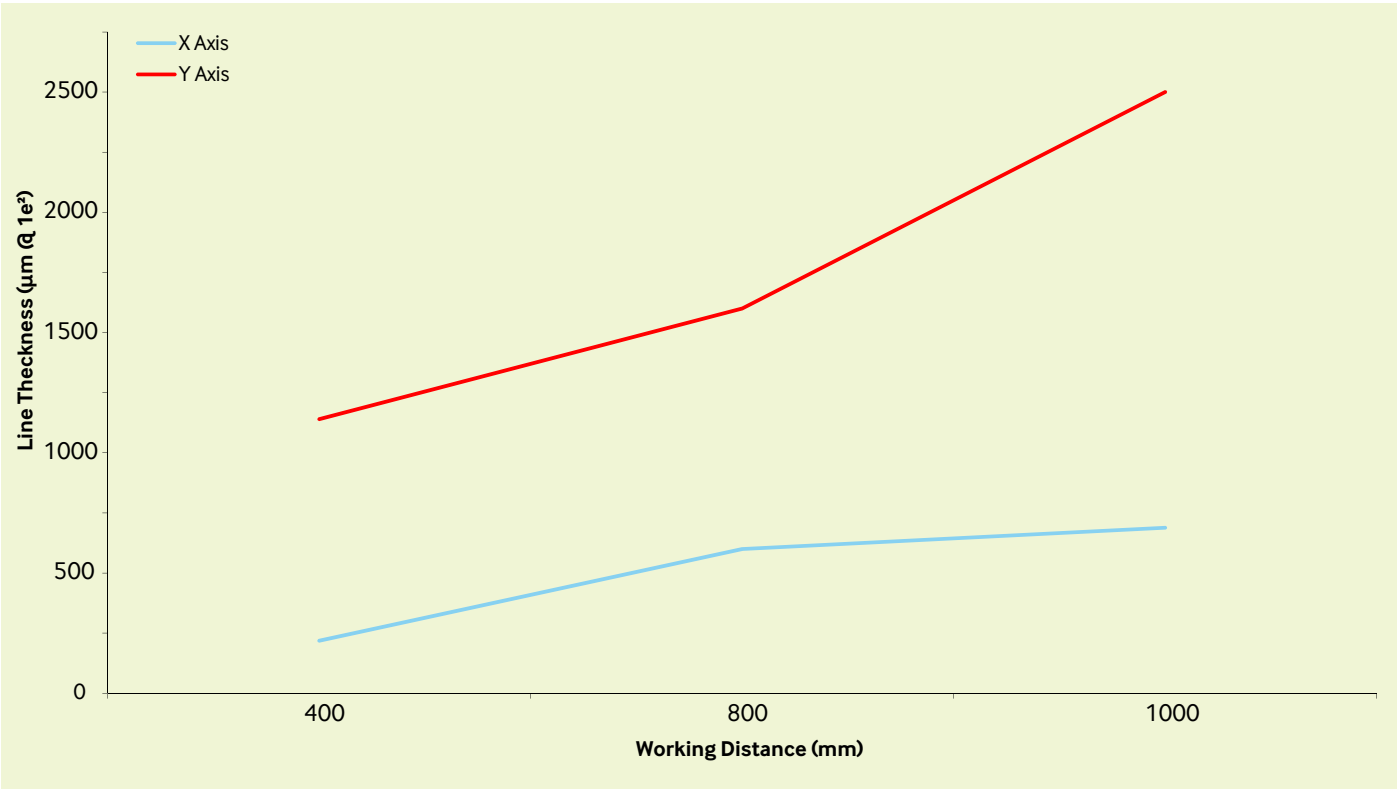
LaserLyte Dot (D): Spot Size over Working Distance



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



LaserLyte Interesecting 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 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 fiction to keep the pointing direction stable.

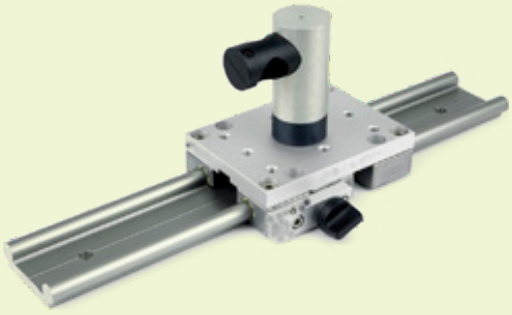
Brackets

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

B12 - 30cm/12”
B6 - 15cm/6”
B4 - 10cm/4”
B2 - right angled 10cm/4”
BS - one of each

Mounting Rails

Options range from the simple slide rail system were 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

Red 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 (630nm to 670nm) 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.

Red Laser Enhancement Glasses

Please Note: these are not laser safety glasses, but are conventional safety glasses that enhance the visibility of red 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.

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.

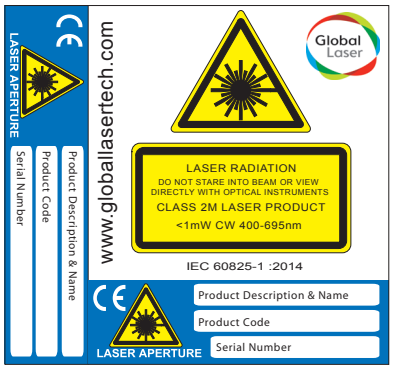
	Part Number	Description
Mounting Accessories		
MK1 Mounting Clamp	5000-50-000	MK1 LaserLyte Mounting Kit
Heavy Duty Mounting Clamp	1240-02-000	Heavy Duty Mounting Clamp 14mm - LaserLyte
Magnetic Base	1235-00-000	Magnetic Base with M6 Stud
Pillow Block Bearing Mount	1237-01-000	Pillow Block Bearing Mount 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 (5V)	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
	5026-52-000	PS-1 with Aus Mains Lead
4 Outlet Power Supply (5V)	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
	5026-52-000	PS-4 with Aus Mains Lead
Battery Box Power Supply for 1 Laser	5040-00-000	LaserLyte Battery Box (Including Batteries)
24 Volt Adaptor	5028-06-000	30V to 5V 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
USB Power Leads	5200-77-000	500mm USB Power-Lead
	5200-78-000	2.5m USB Power-Lead
Laser Safety Glasses & Enhancement Glasses		
Red Laser Safety Glasses	1990-04-000	630-700nm Laser Safety Glasses - Wraparound Style
	1991-00-000	630-700nm Laser Safety Glasses - Overglasses Style
Red Laser Enhancement Glasses	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

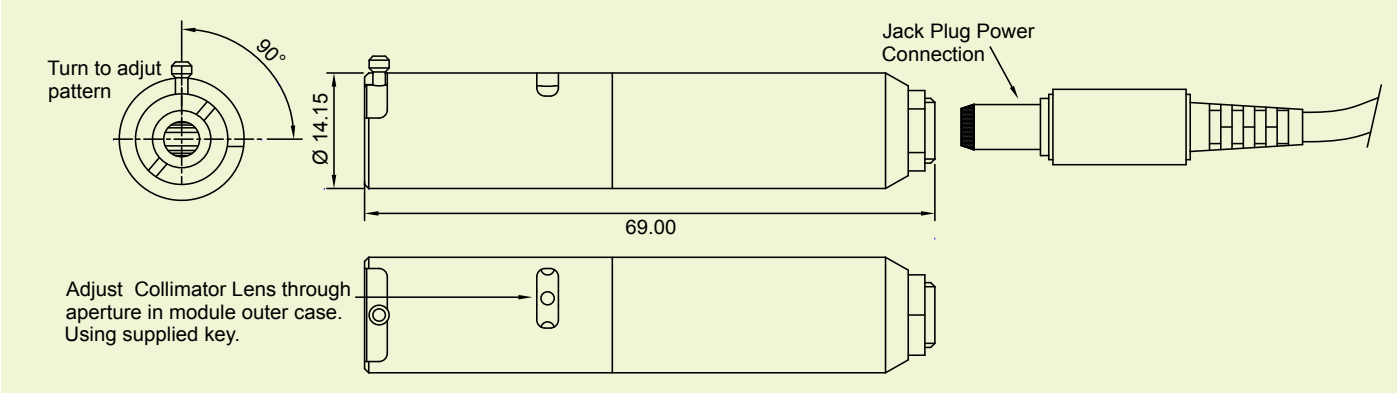
Class 3R Laser Label

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

Global Laser

SYSTEM CERTIFICATION ISO 9001:2000 SGS

Manufacturing Operations Certified to ISO9001

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