



1. Product Overview

Thank you for purchasing the GreenLyte alignment system. This emits a green spot/projection. If you have any problems or require help when using the GreenLyte alignment system please call us on +44 (0)1495 212213 or contact your local representative.

The GreenLyte alignment system is a unique, user adjustable, plug and play system suitable for a wide range of applications, i.e. alignment and these applications include positioning of materials for garments, cloth, paper, wood and metal.

The 532nm Greenlyte system which is 9 times brighter than a 650nm laser to the human eye is particularly suited for use on surfaces such as hot steel, working at longer distances and in high ambient light level. Two models are available with powers of 1, 5, 10 and 20mW. Six projections are available including, dot, cross and lines. Further flexibility allows the line and cross projections optics to be interchangeable between modules. 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.



2. Production Operation

2A Operating with a PS1 or PS4

If you have purchased a GreenLyte alignment system with a 100V/240V to 3.5Volt PS1 you will have the following items:-

GreenLyte Laser Module

Extension Lead (Optional extension leads up to 10 meters available)

100V/240V to 3.5Volt PS1

Main socket to PS1/PS4 power lead (UK, Euro or US)

1. Plug the male DC jack end of the extension lead into the DC socket on the PS1 and then plug the male DC jack on the Extension Lead into the DC socket on the rear of the laser.
2. Connect IEC plug to PS-1 power adaptor.
3. Plug the main plug into a mains socket.
4. Switch on the power supply via key switch (If you have purchased a 3.5V PS1 fitted with a Key switch) or switch on at the mains socket.

2B Operating with a 11/24 V dc Adaptor

If you have purchased a GreenLyte alignment system with a 12/24 Volt DC Adaptor you will have the following items:-

GreenLyte Laser Module

Extension Lead (Optional extension leads up to 10 meters available)

12/24 Volt DC Adaptor

1. Plug the male DC jack end of the extension lead into the DC socket on the 12/24 Volt DC Adaptor , and then plug the male DC jack on the Extension Lead into the DC socket on the rear of the laser module.
2. To the flying leads on the power adaptor connect as follows:
 - Red: +11 V dc to +32 V dc
 - Black: 0 V dc
 - Yellow: Chassis Earth
- 3: Switch on the DC supply to the 12/24 Volt DC Adaptor.

3. Focus Adjustment

The focus of the laser can be adjusted by using the supplied focus key (as shown in diagram C). Should you need to adjust the focus please follow the instructions below:

1. Remove any interchangeable pattern optics, where fitted.
2. Insert focus key into laser barrel and align with focus control grooves.
3. Turn the focus key until desired focus is achieved.
4. Replace the interchangeable pattern optics if fitted and rotate to achieve the desired projection using the supplied key (as shown in diagram D).

4. Changing The Optics

Range interchangeable patterns optics is available for the GreenLyte alignment systems including:

Cross – 55° fan angle

Short Line – 30° fan angle

Long Line - 55° fan angle

Extra Long Line – 90° fan angle

Long Line + Dot – 100° fan angle

To change the pattern please follows the instructions below:

1. Remove any interchangeable pattern optics if fitted (see drawing B).
2. Replace the interchangeable pattern optics and rotate to achieve the desired projection using the supplied key (as shown in diagram D).
3. Please ensure that any optics not fitted to the laser module is keep away from sources of dust etc.

5. Cleaning The Optics

If the laser pattern becomes fuzzy or unclear, please check the following:

1. Check the laser is in focus (see section 3).
2. Verify the optical lens is clean, if the area has been contaminate please remove dirt with dry air.

6. Mounting

To ensure the lifetime and the stability of the laser it is recommended that it is mounted in a suitable Heat sink/mount. The case temperature should be kept within the specified range at all times failure to do this could result in shortened lifetime or catastrophic failure. As a guide, laser diode lifetime decreases by a factor of two (approx.) for every ten degree increase in operating temperature.

Global Laser's Heavy Duty Clamp has parallel and vertical adjustment which allows the user to aim the laser in any required direction or angle, the robust aluminium construction also assists in conducting heat away from the laser body as well as prevents movement due to shock and vibration. 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. A Magnetic Base is also available which simply screws in to the base of the Heavy Duty Clamp and allow it to be fitted to a ferrous surface.

A range of brackets are also available with M5 holes at regular intervals are also available to complement the mounting clamps.

- B12 30cm/12" metal mounting bracket with M5 holes at regular intervals.
- B6 15cm/6" metal mounting bracket with M5 holes at regular intervals.
- B4 10cm/4" metal mounting bracket with M5 holes at regular intervals.
- B2 Right angles 10cm/4" metal mounting bracket with M5 holes at regular intervals.
- BS A set containing one of each of the above brackets

5A Mounting the GreenLyte in the Heavy Duty Clamp

1. Un-tighten Allen screw A (see drawing E) with the supplied allen key.
2. Slide the laser into the mounting hole (see drawing E) and tighten allen key A.
3. For vertical adjustment of the laser un-tighten Grub screw A (see drawing E). This will allow the section mounting the laser to be adjusted. When the vertical posting is complete re-tighten grub screw A.
4. For horizontal adjustment of the laser un-tighten Grub screw B (see drawing E). This will allow the main body of the mount to be moved. When the horizontal positing is complete re-tighten grub screw B.
5. To secure the Heavy Duty Clamp to a surface machine screw or studs can be used in conjunction with the base section (see drawing F for thread details).

5b Mounting the GreenLyte module in the Heavy Duty Clamp with the magnetic base

1. Un-tighten allen screw A (see drawing E) with the supplied allen key.
2. Slide the laser into the mounting hole (see drawing E) and tighten allen key A.
3. For vertical adjustment of the laser un-tighten Grub screw A (see drawing E). This will allow the section mounting the laser to be adjusted. When the vertical posting is complete re-tighten grub screw A.

4. For horizontal adjustment of the laser un-tighten Grub screw B (see drawing E). This will allow the main body of the mount to be moved. When the horizontal positing is complete re-tighten grub screw B.

5. To secure the magnetic base to the Heavy Duty Clamp simple screw the stud on the top of the magnetic base into the centre hole in the base of the Heavy Duty Clamp until tight.

6. Remove the keeper from the magnetic base and place on a ferrous surface to secure.

7. 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 90° will be longer than a line with a fan angle of 30°.

Fan Angle (Degrees)	Distance to Object (mm)	Line Length (mm)
30	100	54
90	100	200

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

		Fan Angle (Degrees)		
		30	55	90
Distance From Object (mm)	250	134	260	500
	500	268	521	1000
	750	402	781	1500
	1000	536	1041	2000
	1250	670	1301	2500
	1500	804	1562	3000
	1750	938	1822	3500
	2000	1072	2082	4000
	2250	1206	2343	4500
	2500	1340	2603	5000
	2750	1474	2863	5500
	3000	1608	3123	6000
	3250	1742	3384	6500
	3500	1876	3644	7000
	3750	2010	3904	7500
	4000	2144	4165	8000
	4250	2278	4425	8500
	4500	2412	4685	9000
4750	2546	4945	9500	
5000	2679	5206	10000	
5250	2813	5466	10500	
5500	2947	5726	11000	

Line Length (mm)

If you require a longer line than a 90° fan angle will produce at the working distance then a possible solution may be to change the mounting position and angle of the laser. By moving the laser to end of the working area and angling the laser at a 50° angle to the work surface the line length is increased by a factor of 5. See the table below and the diagram for a compression.

Working Distance (mm)	Line Length (mm)
250	2879
500	5758
1000	11517
2500	28794
5000	57588
10000	1151754

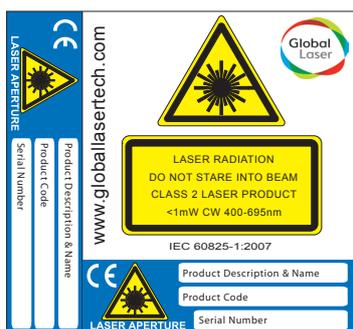
8. Warranty & Repair

If your product develops a fault within 12 months from the date of purchase Global Laser will repair / replace the product. If you wish to return a faulty product contact your local representative or Global Laser to obtain a RMA (Return Material Authorisation code) and return to the address below:

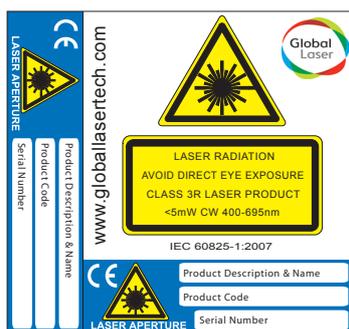
Global Laser Ltd
 Units 9-10
 Roseheyworth Business Park
 Abertillery
 Gwent, NP13 1SP
 United Kingdom

9. Safety & Classification

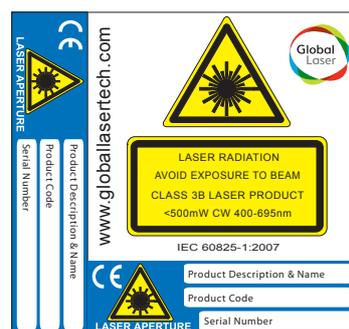
These modules are intended for incorporation into customer equipment. They are classified in accordance with IEC60825-1 2007, which should be consulted prior to designing or using any laser product. The following labels are supplied for attachment to the customer’s equipment, but responsibility for compliance with the standard remains with the user.



Class 2 Laser Label



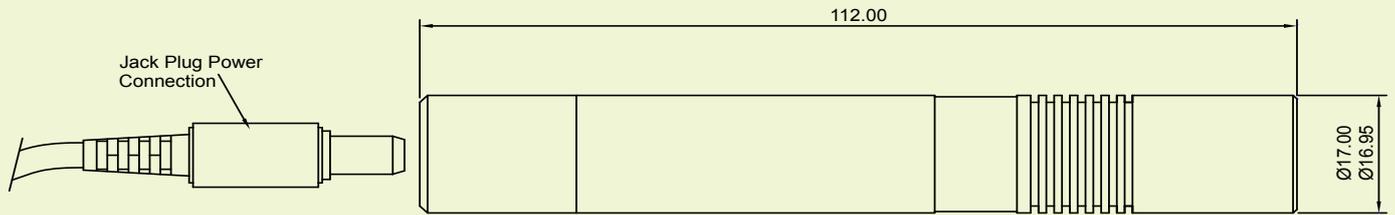
Class 3R Laser Label



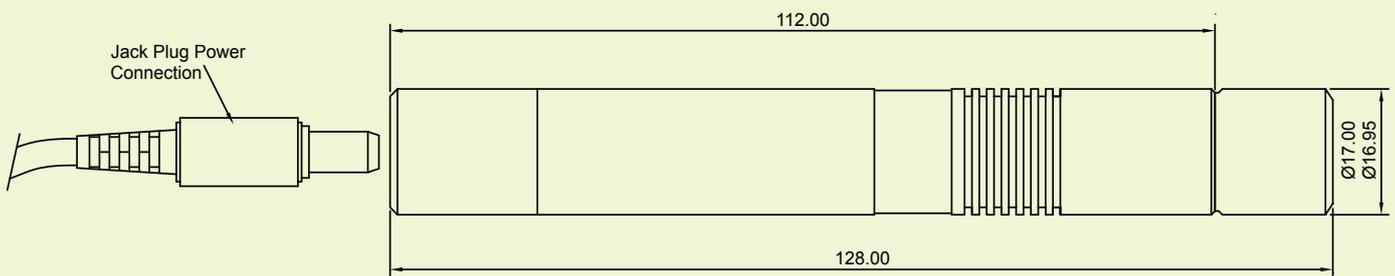
Class 3B Laser Label

10. Diagrams

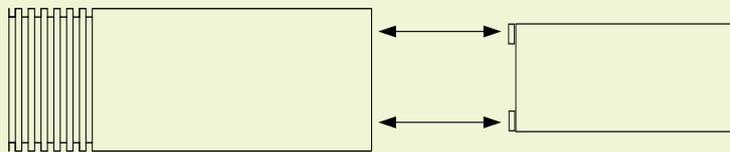
A) GreenLyte



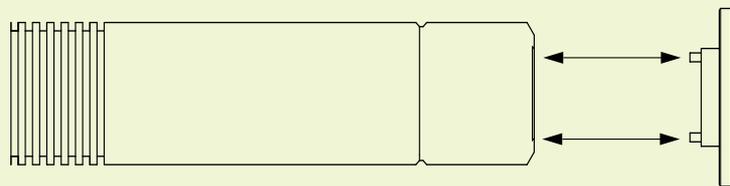
B) GreenLyte with Line/Cross Optic



C) Laser Focus Adjustment

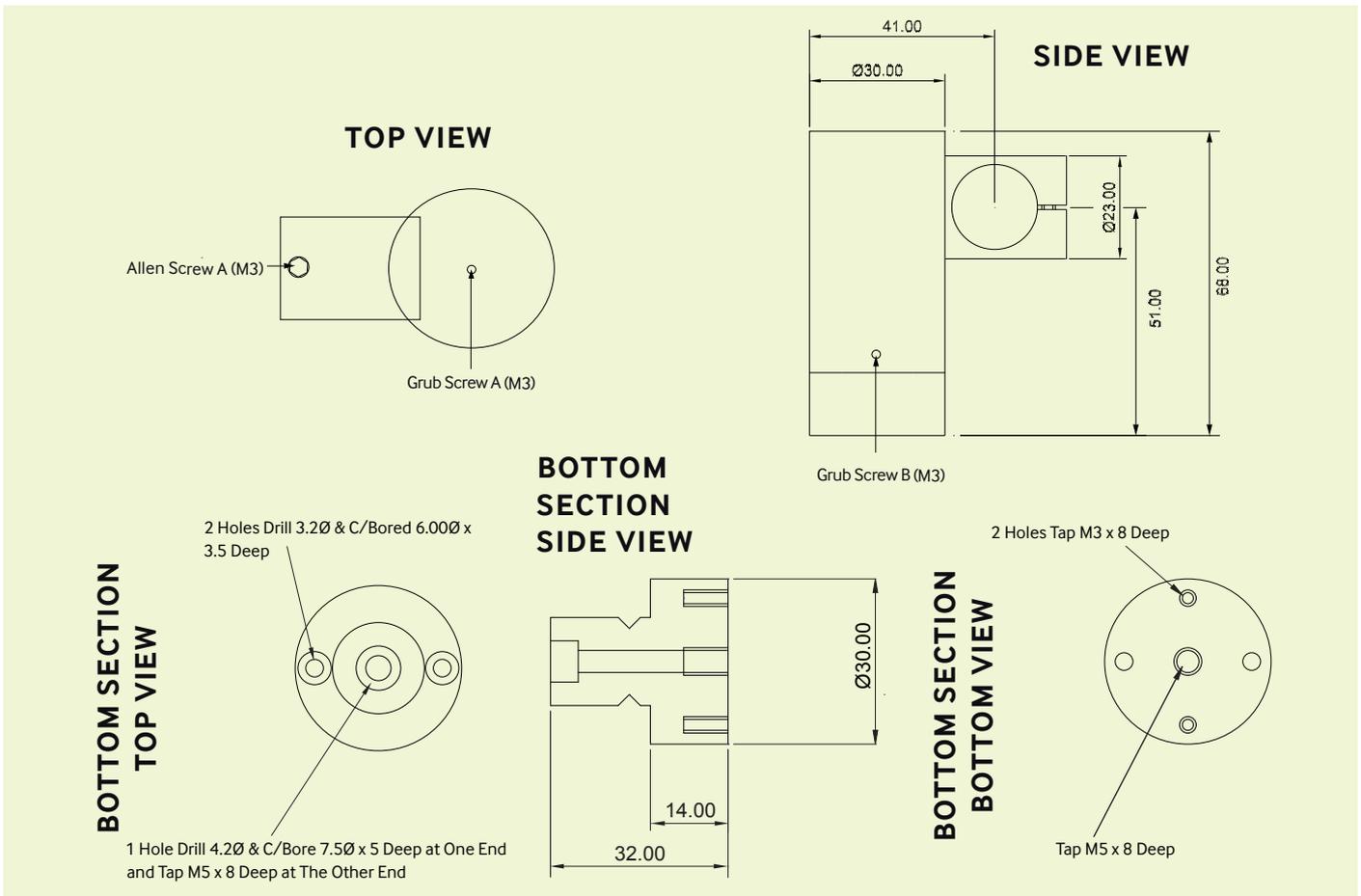


D) Projection Optics Adjustment

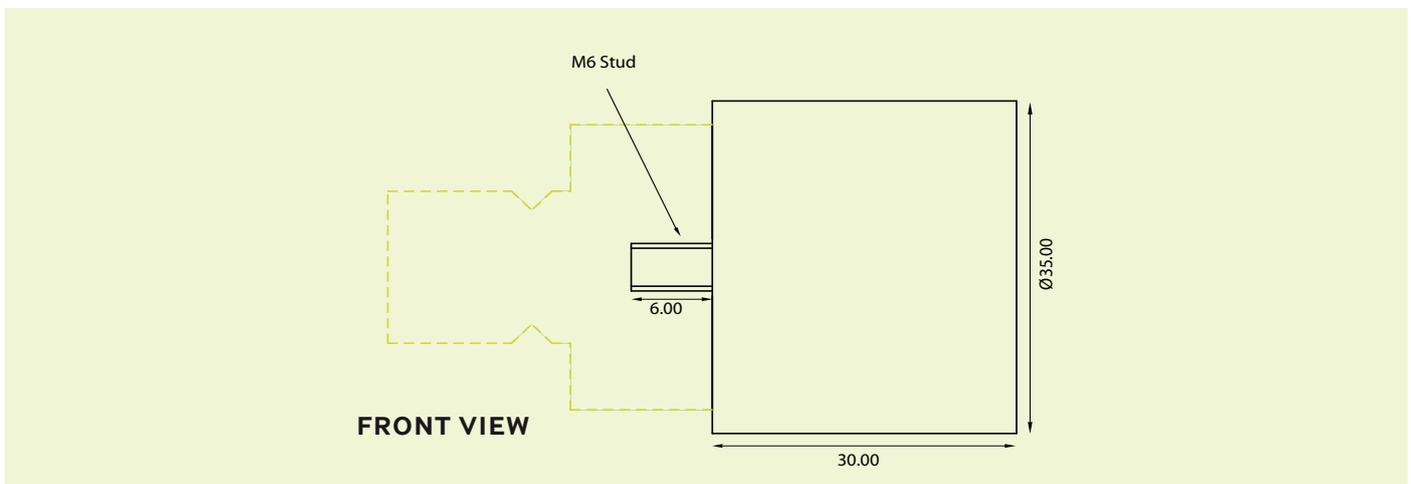


Drawings not to scale

E) Heavy Duty Mounting Clamp



F) Magnetic Base



Drawings not to scale

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



T: +44 (0)1495 212213
 F: +44 (0)1495 214004
 E: sales@globallasertech.com
 www.globallasertech.com

Global Laser Ltd
 Units 9-10
 Rosehyworth Business Park
 Abertillery, Gwent NP13 1SP UK