



Greenlyte Development Kit Userguide

1. Product Overview

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

The GreenLyte Development Kit provides a complete solution to a wide range of visual alignment applications, including positioning of garments, cloth, paper, wood and metal, particularly in challenging lighting conditions. The kit is supplied in a robust case and comprises of a GreenLyte laser diode module, six interchangeable optics which produce a range of line and cross projections, a heavy duty mounting clamp for easy set up and adjustment and a 110V/240V adaptor, including leads for UK, Euro and US main sockets.

The module emits a visually intense 532nm beam which is 9 times brighter than an equivalent power in a 650nm red laser to the human eye. This is particularly suited for use on surfaces such as hot steel, working at longer distances and in high ambient light levels. A further advantage is that the user can conform to a lower laser class, while still maintaining a highly visible projection.

The GreenLyte alignment system can produce either a circular dot or a projection when fitted with one of the supplied interchangeable optics. A user adjustable collimating lens allows the user to adjust the focus (size) of the beam at the desired working distance via a supplied key. Each of the six interchangeable optics can be simply screwed into the end of the laser diode module to produce the required projection. Included are three different lines, cross projection and a line with centre dot.



2. Production Operation

Operating with a PS1

Your GreenLyte Development Kit is supplied as standard with a 110V/240V to 3.5Volt PS1. You will also have the following items:

- GreenLyte Laser
- 3 meter power lead
- Large Heavy Duty Mounting Clamp
- 110V/240V to 3.5Volt PS1
- IEC to Euro mains power lead
- Euro to US Adaptor
- Euro to UK Adaptor (fitted to the IEC lead as standard)

1. Plug the male DC jack on one end of the 3 meter power lead into the DC socket on the PS1 and plug the other end into the DC socket on the end of the GreenLyte laser.
2. If you wish to use the power lead in a Euro socket simply unscrew the two screws in the front of the adaptor and open the lid and remove the adaptor from the power lead.
3. If you wish to use the power lead in a US socket simply unscrew the two screws in the front of the adaptor and open the lid and remove the adaptor from the power lead. Fit the plug in to the US adaptor, close the lid and tighten the screws.
4. Connect IEC plug to PS-1 power adaptor.
5. Plug the mains plug/adaptor into a mains socket.

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. 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 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 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	2278	4945	9500	
5000	2412	5206	10000	
5250	2546	5466	10500	
5500	2679	4726	11000	

Line Length (mm)

5. Changing The Optics

A set of 5 interchangeable pattern optics have been supplied with your GreenLyte Development Kit including:

- Cross Projection – 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 optics please follows the instructions below:

1. Remove any interchangeable pattern optics if fitted (see drawing A).
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 diode module is kept away from sources of dust etc.

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 is supplied as standard for the GreenLyte Development Kit.

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 it to be securely fastened to a stable surface.

6A Mounting the Greenlyte in the Heavy Duty Clamp

1. Un-tighten Allen screw A (see drawing B) with the supplied Allen Key.
2. Slide the laser into the mounting hole (see drawing B) and tighten Allen Key A.
3. For vertical adjustment of the laser un-tighten Grub screw A (see drawing B). This will allow the section mounting the laser to be adjusted. When the vertical positioning is complete re-tighten grub screw A.
4. For horizontal adjustment of the laser un-tighten Grub screw B (see drawing B). 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 B for thread details).

7. Warranty & Repair

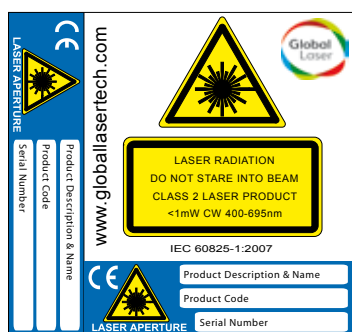
If your product develops a fault within 24 months from the date of purchase Global Laser will repair / replace the product. If you wish to return a faulty product contact your local representative or Global Laser to obtain a RMA (Return Material Authorisation code) and return to the address below:

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

8. Safety & Classification

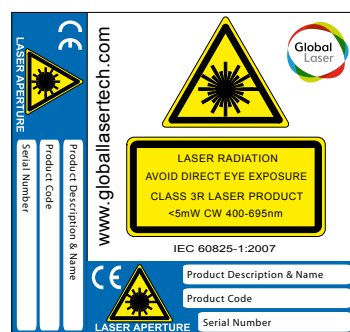
These modules are intended for incorporation into customer equipment. They are classified in accordance with IEC60825-1 2007, which should be consulted prior to designing or using any laser product. The following labels are supplied for attachment to the customer's equipment, but responsibility for compliance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

GreenLyte 532nm, 1mW



Class 2 Laser Label

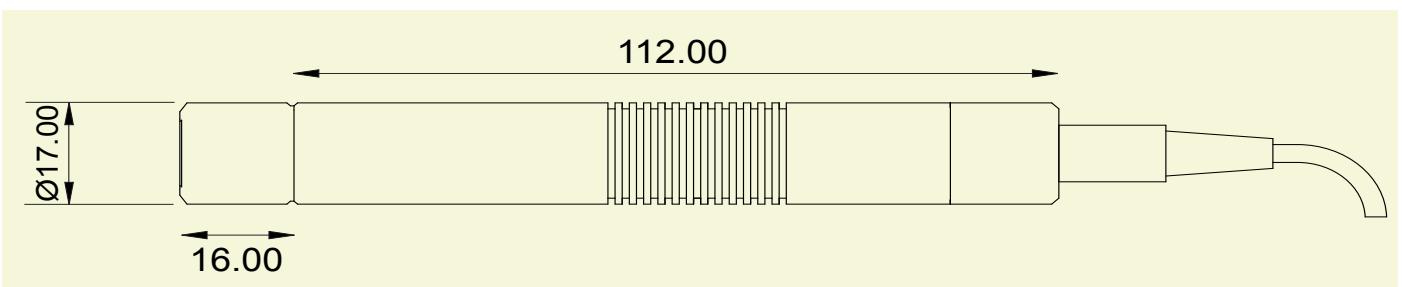
GreenLyte 532nm, 5mW



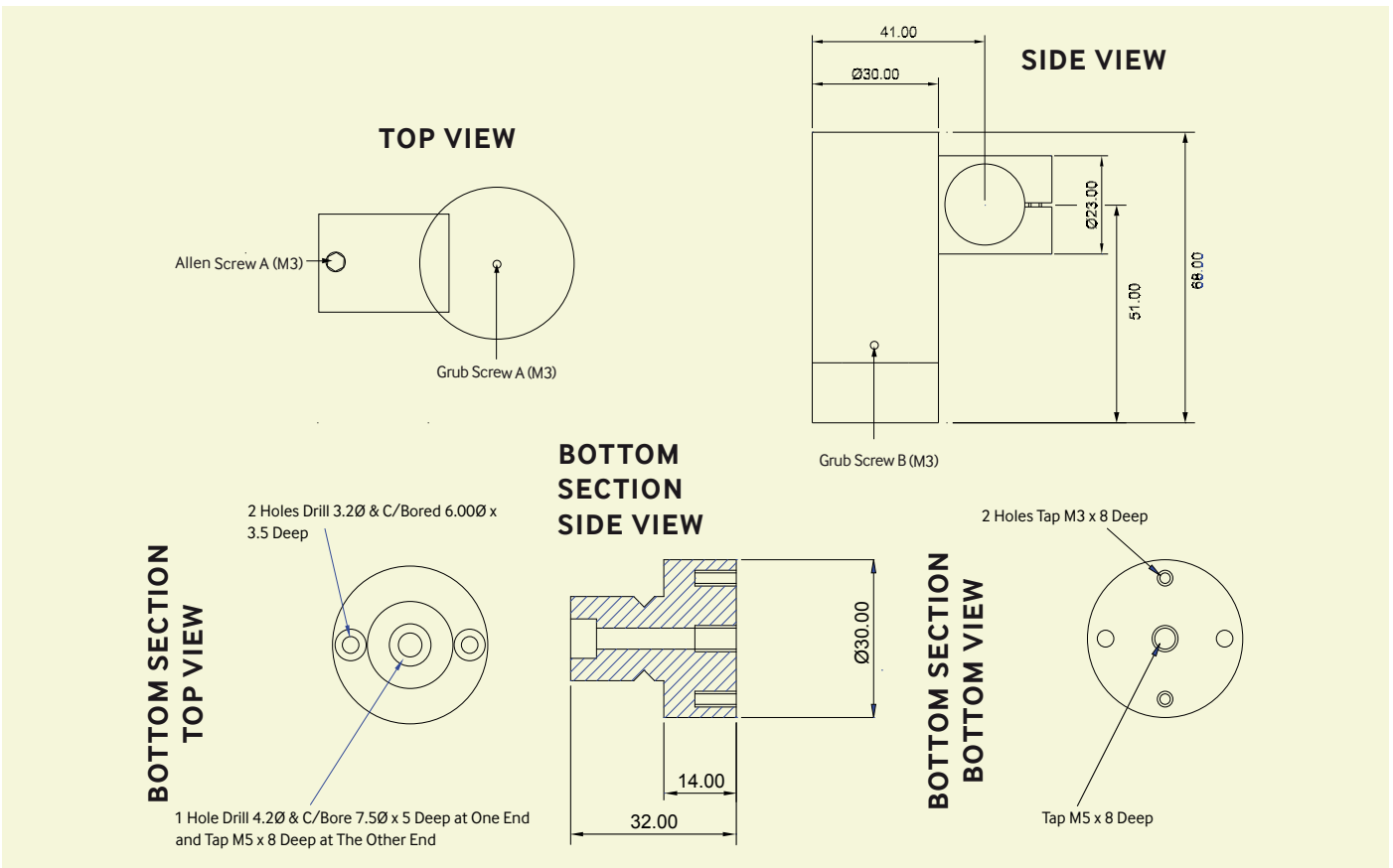
Class 3R Laser Label

9. Diagrams

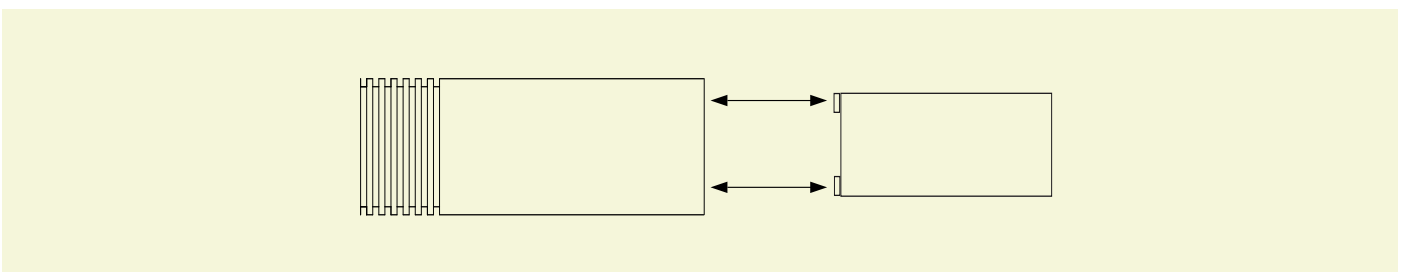
A) GreenLyte With Line/Cross Optics



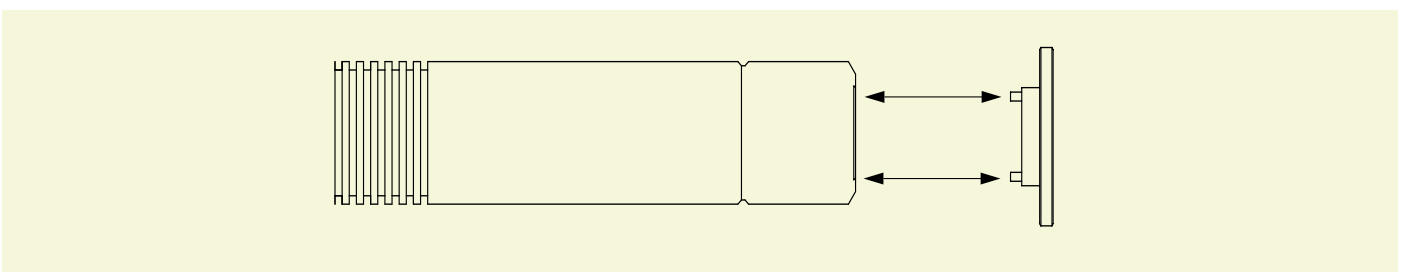
B) Large Heavy Mounting Clamp



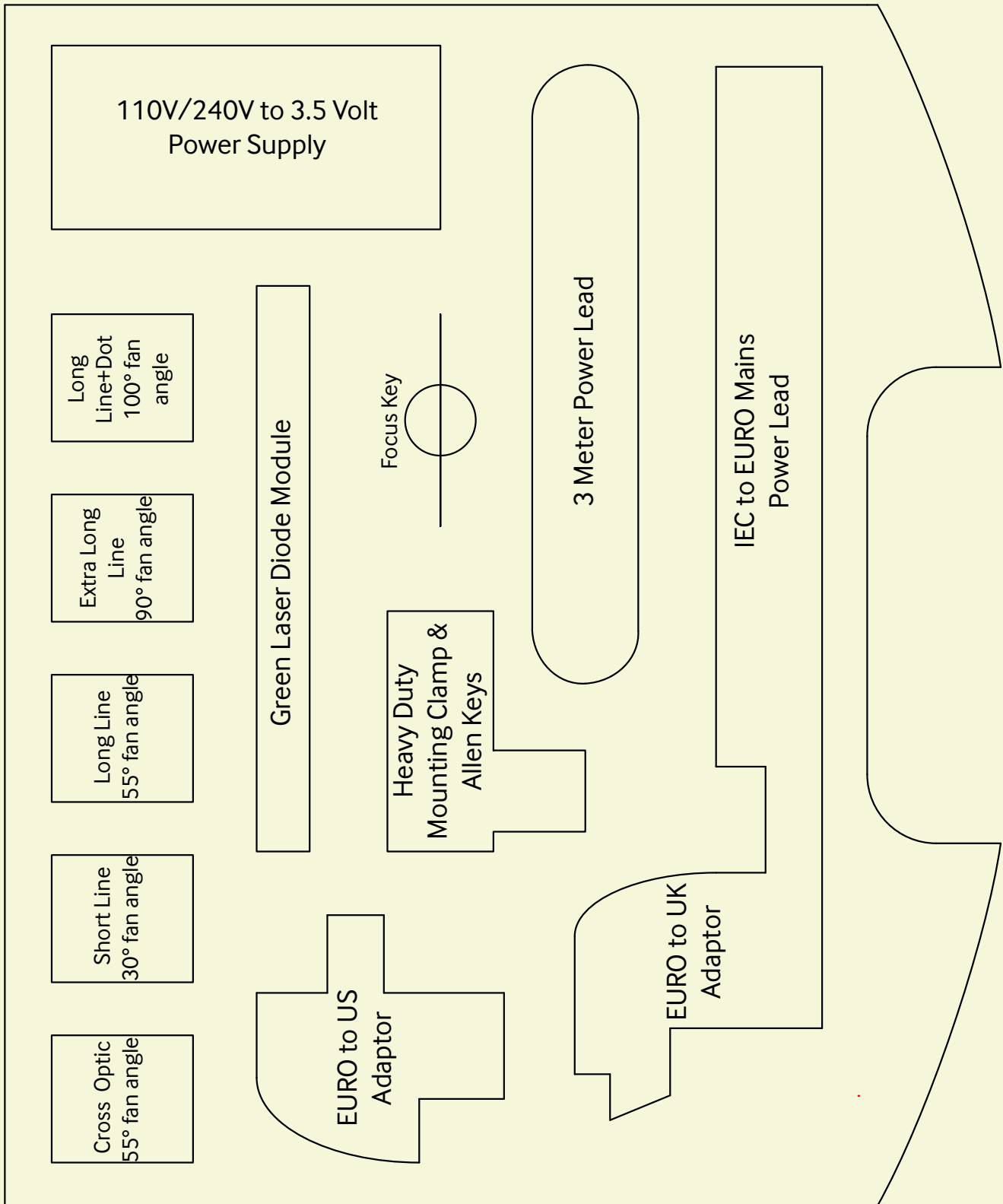
C) Laser Focus Adjustment



D) Projection Optics Adjustment



9. Diagrams



Notes.

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



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