Beta CW Userguide

1. Product Overview

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

The Beta CW from Global Laser Ltd is a robust, high quality laser diode module which provided a reliable laser source to a wide range of applications.

A wide range of standard wavelength and powers are available for the Beta CW which also features the benefits of an isolated housing and reverse polarity protection as standard. An A/R coated user adjustable collimating lens produces an elliptical output beam which can produce a collimated beams or be focused to produce a fine focused spot. Lens assembly's which circularizer the beam or provided lower beam divergence can also be supplied. A wide range of line generating optics can also be supplied. Some models also feature a TTL input to allow the output to be pulsed on and off via a TTL level signal.

Wide range of mounting clamps are also available to allow the user to mount the laser module securely to a machine or workbench while allowing parallel and vertical adjustment.

2. Product Operation

Depending on the model type you ordered you will have a Beta CW with one of the below lead configurations.

Two lead type (Use the instructions in section 2A to connect the laser):
1 Red Lead
1 Green Lead

Three lead type (Use the instructions in section 2B to connect the laser):
1 Black Lead
1 Green Lead
1 Blue Lead

A: CW Mode

To operate laser in CW mode, the Red & Green leads should be connected as below.

	Beta CW
Red Lead	+5 Vdc ±250mV
Green Lead	0 Vdc

B: CW Mode

To operate laser in CW mode, the Black & Green leads should be connected as below. The blue lead may be left floating.

	Beta CW
Black Lead	-5 to -8 Vdc
Green Lead	0 Vdc
Blue Lead	Not Connected

B1: CW Mode

The Beta CW has a third blue input wire which allows the user to turn the laser output on and off via a TTL signal level. An input signal of < 0.4 V = off and an input signal level > 2 V = on. Frequency bandwidth is typically ≤100 Hz.

	Beta CW
Black Lead	-5 to -8 Vdc
Green Lead	0 Vdc
Blue Lead	Input TTL Signal

3. Focus Adjustment

The focus of the of the Beta CW can be adjusted in one of two method depending on the model.

3A. Beta CW Fitted with Projection Optics

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

1. Remove the projection optic from the collimating lens assembly with the supplied key (see drawing C).
2. Slacken lock ring fitted to the collimating lens assembly (see drawing B).
3. Adjust focus by turning collimating lens assembly till the desired focus is achieved.
4. Tighten locking ring.
5. Refit projection optic and rotate until the best pattern is achieved.

3B. Beta CW Fitted with Dot Optics

1. Insert focus key into laser barrel and align with focus control groves.
2. Turn the focus key until desired focus is achieved

4. Cleaning The Optics

It is recommended that when the Beta CW laser is not in use the supplied protective cap is placed over the optics to reduce the risk of the being contaminated by dirt. If the laser pattern becomes fuzzy or unclear, please check the following:

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

5. 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.

There are two mounting clamps available as standard from Global laser for the Beta CW range.

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 secure fastening 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.

The Swivel Mount is available for 15 mm diameter lasers. It provides the user with up and down tilt movement as well as +/- 45° swivel. The base plate has a series of holes which allows the clamp to be fixed directly onto a machine or workbench. On the rear of the main block are two M3 threaded holes which enable heatsink fins to be attached if required.

5A Mounting the Beta CW in the Heavy Duty Clamp

1. Un-tighten Allen screw A (see drawing D) with the supplied Allen key.
2. Slide the laser into the mounting hole (see drawing D) and tighten Allen key A.
3. For vertical adjustment of the laser un-tighten Grub screw A (see drawing D). 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 D). 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 D for thread details).

5B Mounting the Beta CW in the Heavy Duty Clamp with the Magnetic Base

1. Un-tighten Allen screw A (see drawing D) with the supplied Allen key.
2. Slide the laser into the mounting hole (see drawing D) and tighten Allen key A.
3. For vertical adjustment of the laser un-tighten Grub screw A (see drawing D). 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 D). This will allow the main body of the mount to be moved. When the horizontal positing is complete re-tighten grub screw B.

5C Mounting the Beta CW in the Swivel Mount

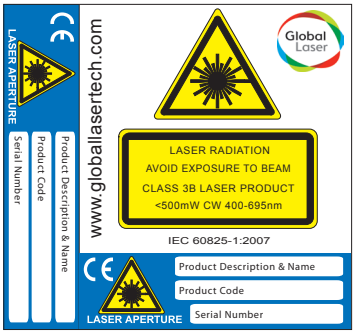
1. Un-tighten Allen screw A (see drawing F).
2. Slide the laser into the mounting hole (see drawing F) and tighten Allen key A.
3. For vertical adjustment of the laser un-tighten Allen screw B (see drawing F). This will allow the section mounting the laser to be adjusted. When the vertical posting is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

remains with the user.

6. 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

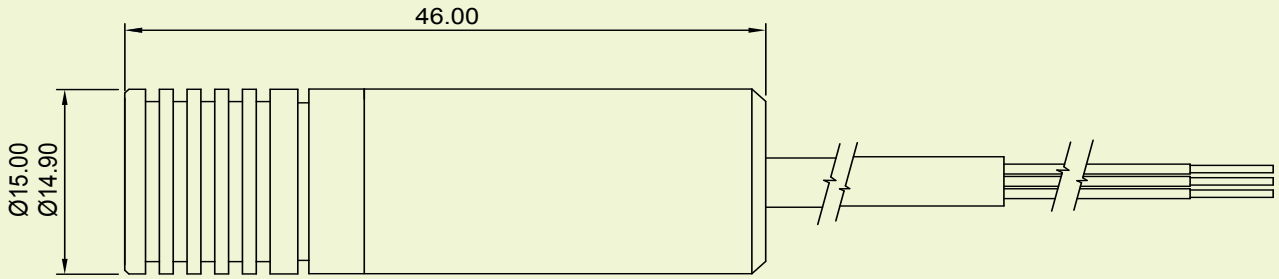


Class 3B Laser Label

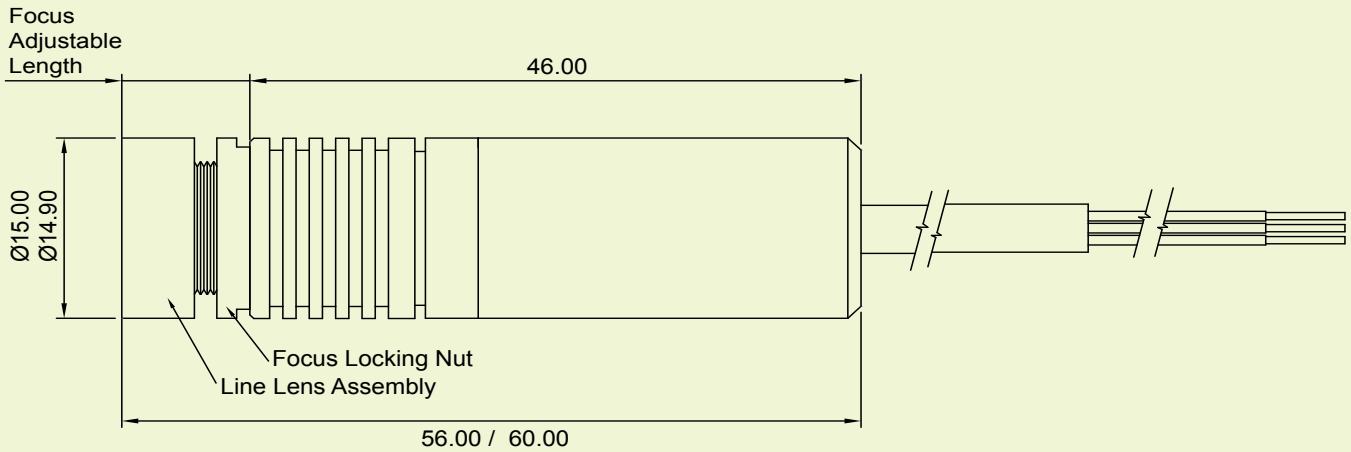
Class 3R Laser Label

7. Diagrams

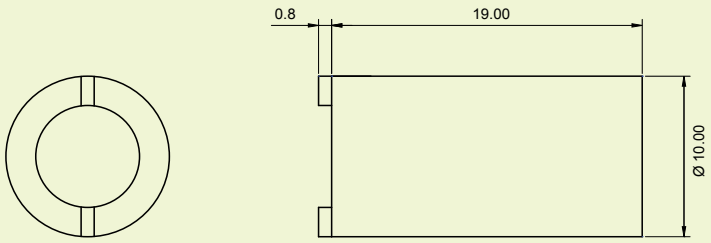
A) Beta CW



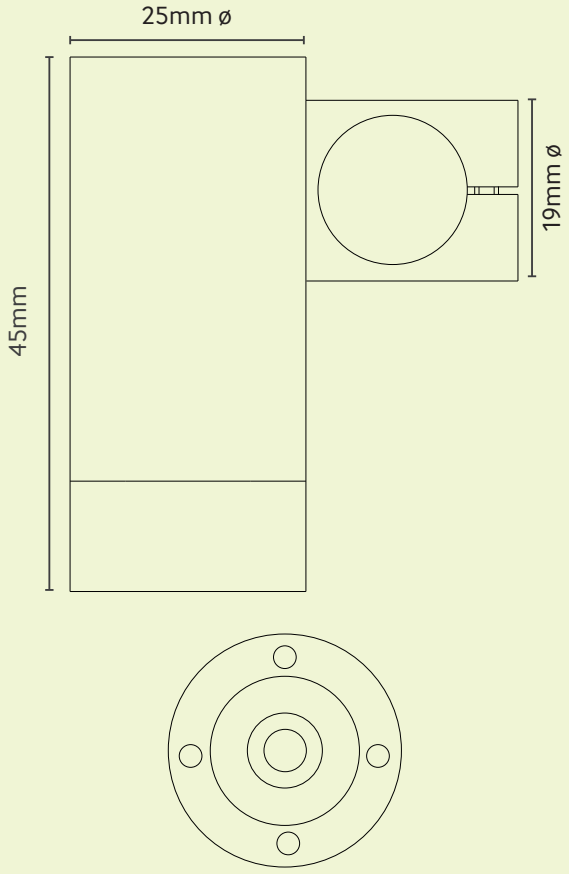
B) Beta CW with External Optic



C) Focus Key

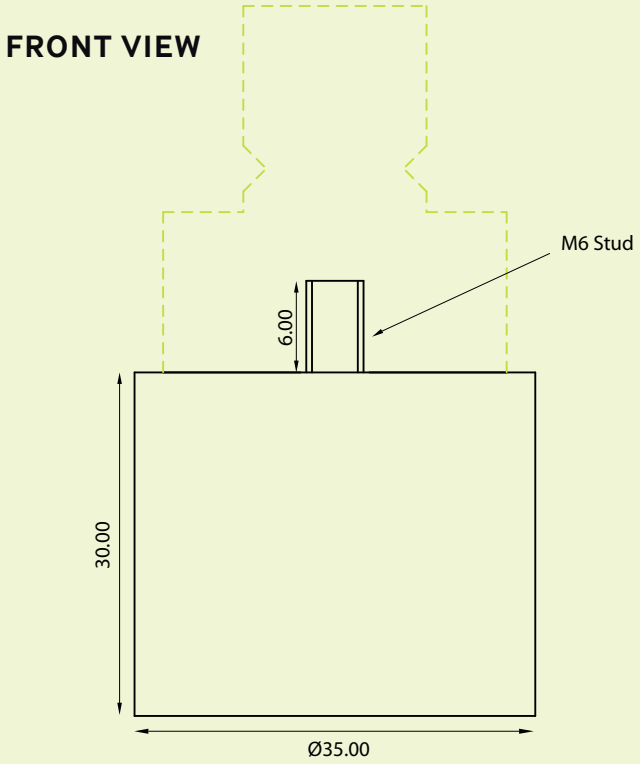


D) Heavy Duty Mounting Clamp

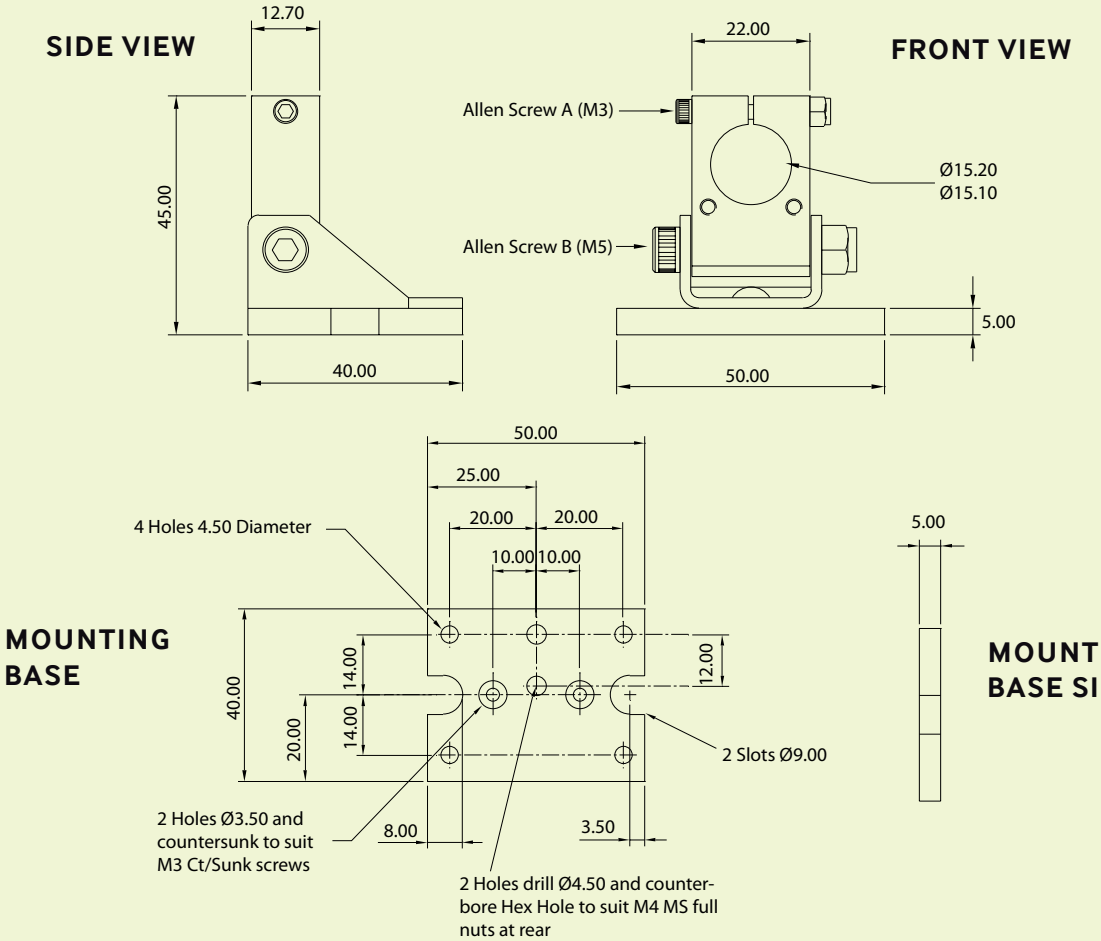


M5 Mounting hole on base

E) Magnetic Base



F) Swivel Mount



Drawings are not to scale.

8. Notes

For further information about any of our products please contact your local distributor or you can contact Global Laser in the UK. Your Local Distributor Is:

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

ISO9001 Certified

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