



Cameo Userguide

Product Overview

Thank you for purchasing a laser module from the Cameo range. This emits a red/IR spot or projection. Two models are available, either a CW version (1250) or the Gated version (1260). The Gated version incorporates a TTL modulatable input capable of 100Khz.

The Cameo range is a miniature laser module that has a threaded barrel for easy bulkhead mounting which also ensures good thermal contact between module and heat sink. This new concept in laser module design allows a laser diode, an adjustable collimating lens and a drive circuit to be incorporated within a body which is just 23mm long and all without compromising the performance. The Cameo offers high output power stability with transient and polarity protection, as well as electrical isolation between diode and case. It has a latching connector that improves reliability.

If you have any queries or require help when using the Cameo range please call us on +44(0)1495 212213 or contact your local representative.



Product Operation

A. CW Mode

To operate the laser in CW mode connect the 2 way JST (see diagram A) to back of laser module.

Pin	Lead	1250 CW Cameo
Pin 1	Red Lead	3.3Vdc to +5 Vdc
Pin 2	Black Lead	0 Vdc

B: 1260 Gated Version

Introduction

A common requirement for applications which use photo detectors, cameras and other non-visual sensing is the ability to rapidly switch the laser output ON and OFF. Simply applying and removing the supply voltage is rarely satisfactory and in certain cases can result in the destruction of the module. This is because laser diodes are very sensitive to spikes and surges, which are often the result of uncontrolled supply switching. To overcome this limitation, the 1260 Gated Cameo has two additional inputs that are provided to control the output of the laser module in a reliable and predictable way.

Control Input (Pin 3 - Yellow Lead)

A logic LOW level turns the output completely OFF ($\leq 5\%$). However, applying a logic HIGH turns the laser ON after a control input delay. This sets the maximum rate at which the module can switch fully ON and OFF. Bandwidth is $\geq 100\text{Khz}$.

Enable Input (Pin 4 - Blue Lead)

Some applications require a simple, slow speed ON/OFF Switching (such as an enable switch). The 1260 gated Cameo eliminates the requirement to provide an external switching device by providing a logic compatible enable input, capable of operating from low power logic and micro-processors. In this OFF condition, the module draws very little or no current and no light is emitted. The logic input is Non-inverted.

Pin Connections and Functions

Connect the supplied 4 way JST connector to back of laser.

CW Mode:

To operate laser in CW mode the red, black, yellow and blue leads should be connected to the following:

Pin	Lead	1260 Gated Cameo
Pin 1	Red Lead	3.3Vdc to +5 Vdc
Pin 2	Black Lead	0 Vdc
Pin 3	Yellow Lead	+V Supply
Pin 4	Blue Lead	+V on, -V off

TTL Mode:

With this version, the yellow lead can be utilised to be driven with a TTL input modulation signal.

Pin	Lead	1260 Gated Cameo
Pin 1	Red Lead	3.3Vdc to +5 Vdc
Pin 2	Black Lead	0 Vdc
Pin 3	Yellow Lead	Input TTL Signal
Pin 4	Blue Lead	+V on, -V off

Cleaning The Optics

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

1. Check the laser is in focus.
2. Remove contaminants with a compressed air duster.
3. Contact Global Laser or your local representative if you still have issues.

Note: Handle optics with with care using powder-free latex or nitrile gloves. These prevent the transfer of oils and debris from hands to optics. Please place the protective cap over the aperture when the laser is not in use to reduce optical contamination.

Mounting & Heatsinking

The Cameo laser module is designed to be mounted via its threaded front barrel (M12X1 Thread) ideally to a metal mounting bracket or bulkhead. To further assist mounting the module is supplied with a nut which is fitted to the front barrel. A tool to fit a 15mm nut is required for adjustment. The direct contact of the barrel to the mount helps to ensure heat sinking and improve laser diode lifetime. To further improve reliability the barrel is isolated from the laser diode supply voltage at all times. 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 for the Cameo: swivel clamp and pillow block bearing mount.

Mounting the Cameo in the Swivel Mounting Clamp (See drawing D)

1. Secure the mounting base to a surface
 - a. You can use 2 x Ø9 mm slots, 4 x Ø4.5 mm holes, and/or 2 x Ø3.5 mm countersunk holes to achieve this. If mounting via Ø3.5mm countersunk holes, the swivel bracket must be removed from the base and then reattached after mounting.
2. Loosen Allen screw A (M3)
3. Slide your laser into the mounting hole and then tighten Allen screw A
4. Loosen Allen screw B (M5)

5. Adjust tilt angle and then tighten Allen screw B
6. Loosen 2 x M4 screws attaching swivel bracket to base
7. Adjust swivel angle and then tighten 2 x M4 screws remains with the user.

Mounting the Acculase in the Pillow Block Bearing Mount (See Drawing E)

1. Secure the mount to your workbench or surface using the 20 x 11 mm oval slots in the base
2. Unscrew the M6 or M8 socket head screws to remove the clamp from the base
3. Separate the black mounting cylinder from the spherical rolling element
4. Insert your laser into the mounting cylinder
5. Replace both halves of the spherical rolling element around the cylinder and hold in place
6. Position the spherical rolling element and mounting cylinder in the curved section of the clamp and hold in place
7. Replace the other half of the clamp and hold in place
8. Screw the M6 or M8 socket head screws through the clamp and into the base
9. Manually adjust the direction of your laser

Focus Adjustment

Should you need to adjust the focus please follow one of the below methods:

A. Cameo fitted with dot optic (S/C2/HG lens)

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

B. Cameo fitted with a P lens

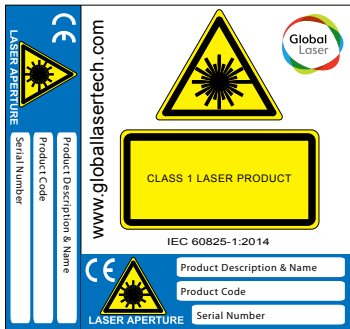
1. Taking care not to touch the lens itself, grip the lens assembly at the front of the laser.
2. Turn until the beam is the desired size.

C. Cameo fitted with projection optic

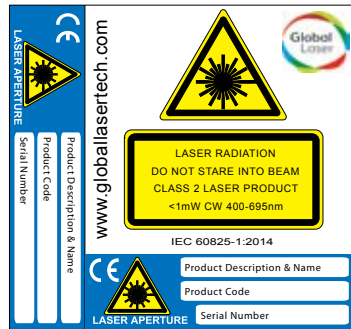
1. Remove any external optics, where fitted (see drawing B).
2. Insert focus key into laser barrel and align with focus control grooves.
3. Turn the focus key until desired focus is achieved.
4. Replace the external optics if fitted and rotate to achieve the desired projection.

Safety & Classification

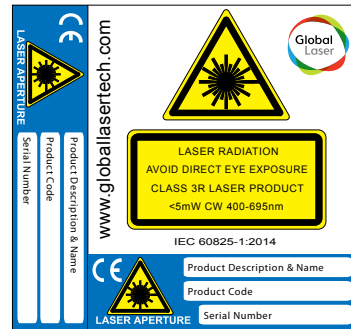
These modules are intended for incorporation into customer equipment. They are classified in accordance with IEC60825-1 2014, which should be consulted prior to designing or using any laser product. The following labels are supplied for attachment to the customer's equipment, but responsibility for compliance with the standard remains with the user.



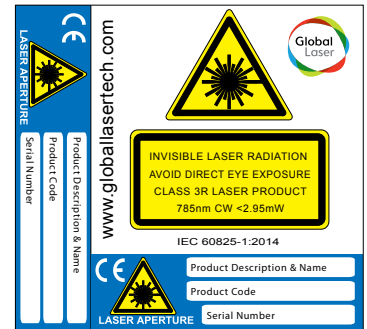
Class 1 Laser Label



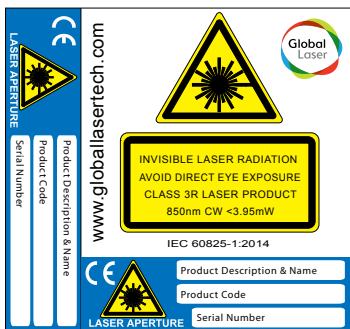
Class 2 Laser Label



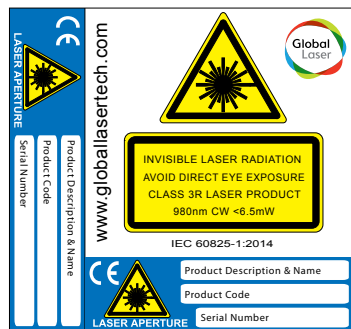
Class 3R Visible Laser Label



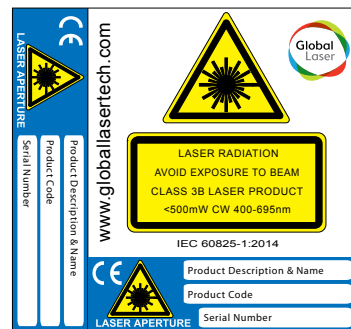
Class 3R 780nm Laser Label



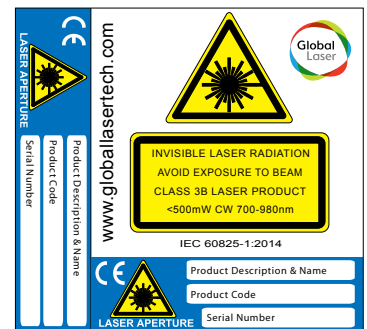
Class 3R 850nm Laser Label



Class 3R 980nm Laser Label



Class 3B Visible Laser Label



Class 3B IR Laser Label

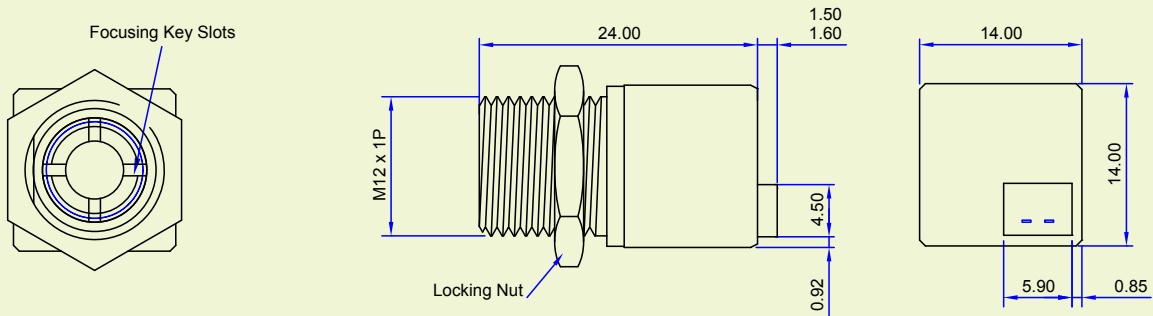
Warranty & Repair

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:

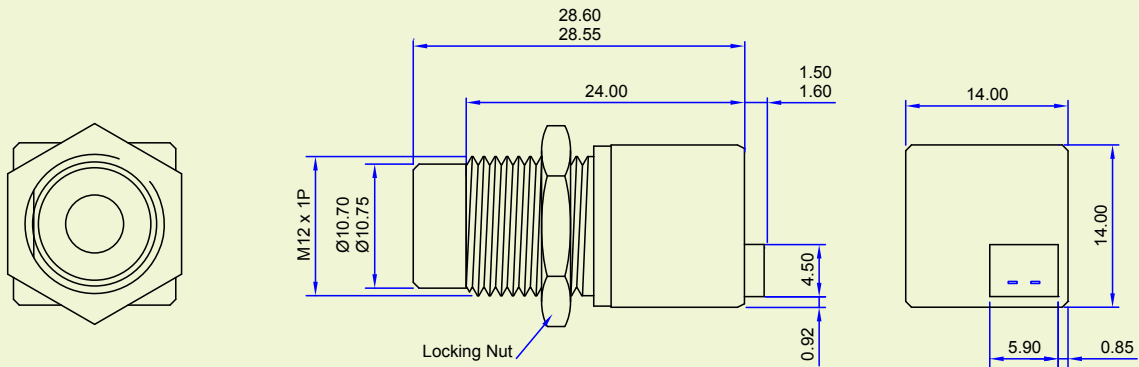
Global Laser Ltd
Unit 9-10
Roseheyworth Business Park
Abertillery
Gwent, NP13 1SP
United Kingdom

Mechanical Dimensions

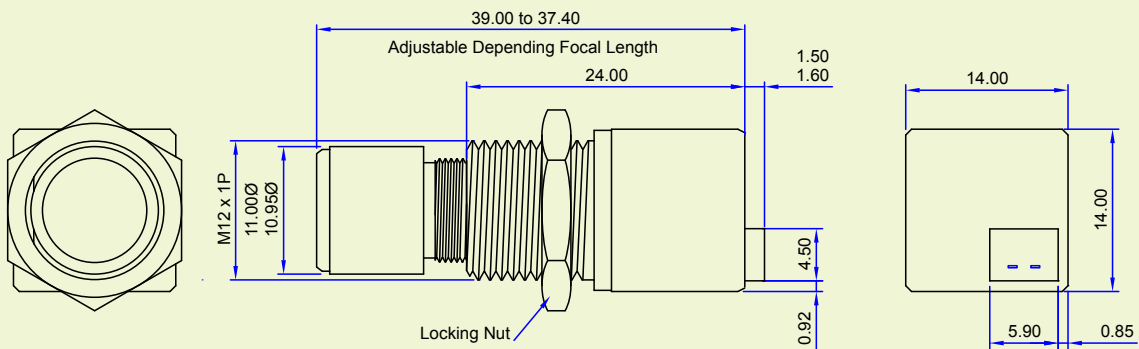
A) Cameo Laser Module with S/C2/HG Lens



B) Cameo Laser Module with P Lens

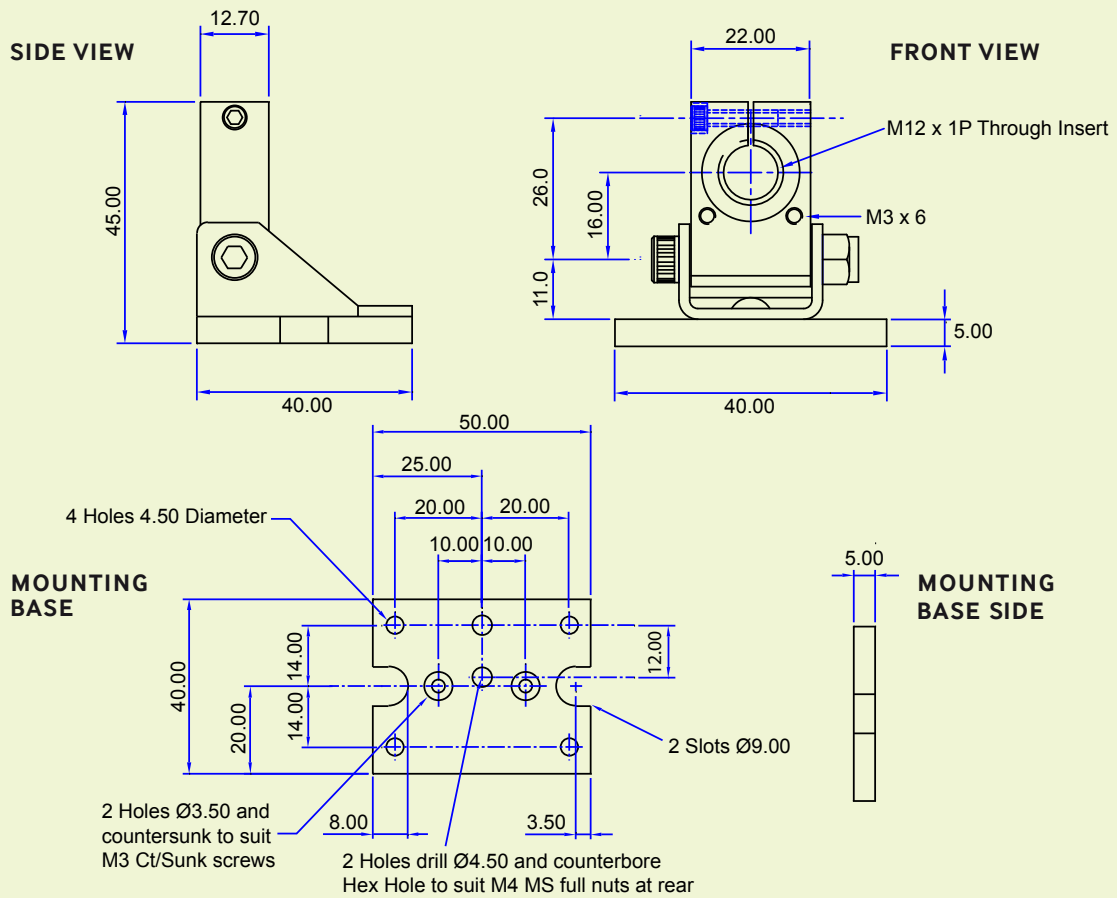


C) Cameo Laser Module with Projection Lens

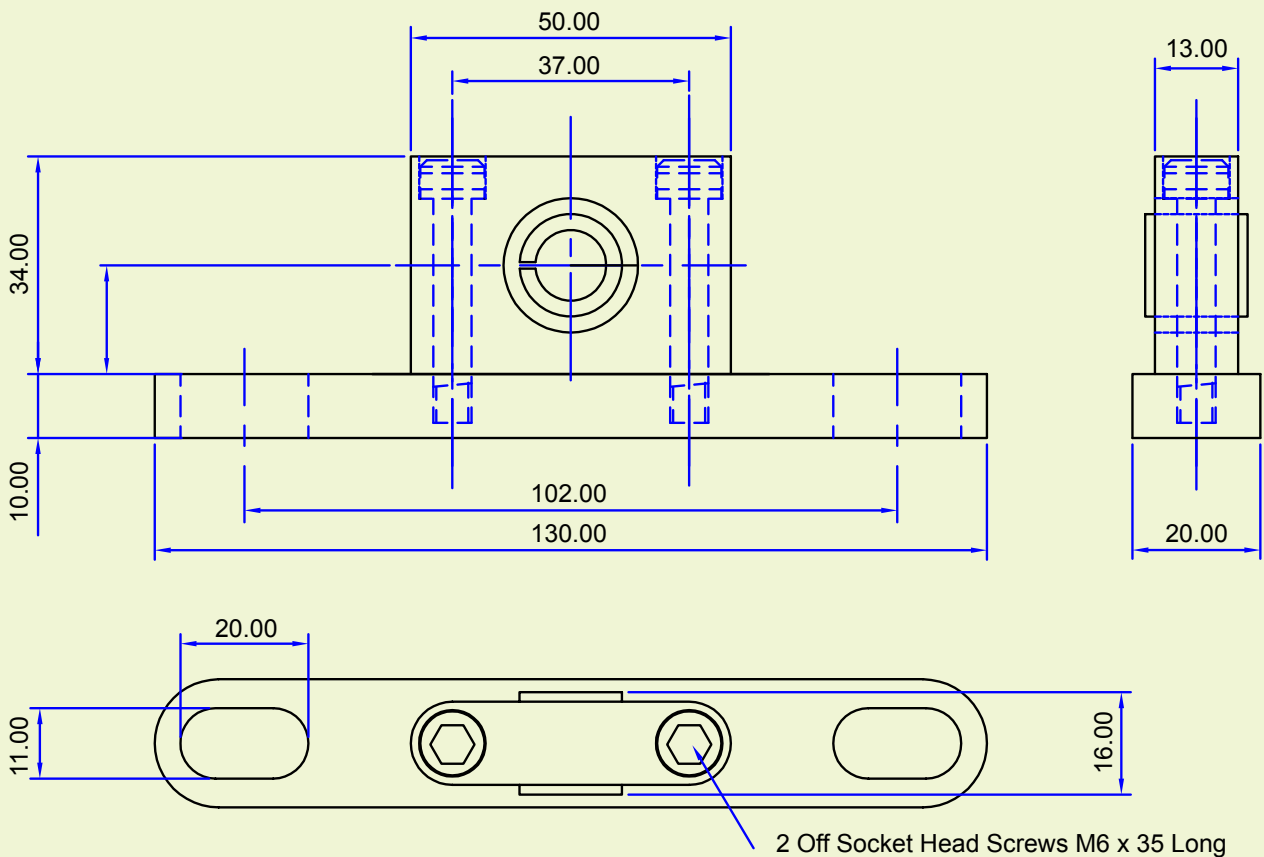


Note: The Gated Cameo will have a 4 way JST connector.

D) Swivel Mounting Clamp



E) Pillow Block Bearing Mount(M12)



Drawings are not to scale.

Notes



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