



# Hawkeye Userguide

## 1. Product Overview

Thank you for purchasing one of the following models from the Hawkeye Detector Range.

- Hawkeye Standard Detector
- Hawkeye High Gain Detector
- Hawkeye High Frequency Detector

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

The series of Hawkeye Detectors are designed as a companion to the Global Laser Premier, Acculase, and Gated Cameo, as well as lasers from our non-modulated range.

The modular design of the Hawkeye Detector incorporates a novel amplification system, which ensures excellent performance and a high signal to noise ratio even in high ambient light conditions. Therefore, the Hawkeye is ideal not only for conventional indoor applications, but in addition for a wide variety of outdoor applications.

A removable front sleeve and M12x1 threaded front mounting options of either clamping of the 15mm diameter module with sleeve fixed allows or screwing to a bulkhead.

The integrated optics produce a wide acceptance angle which further increase this detector's extensive capabilities.



# 2. Product Operation

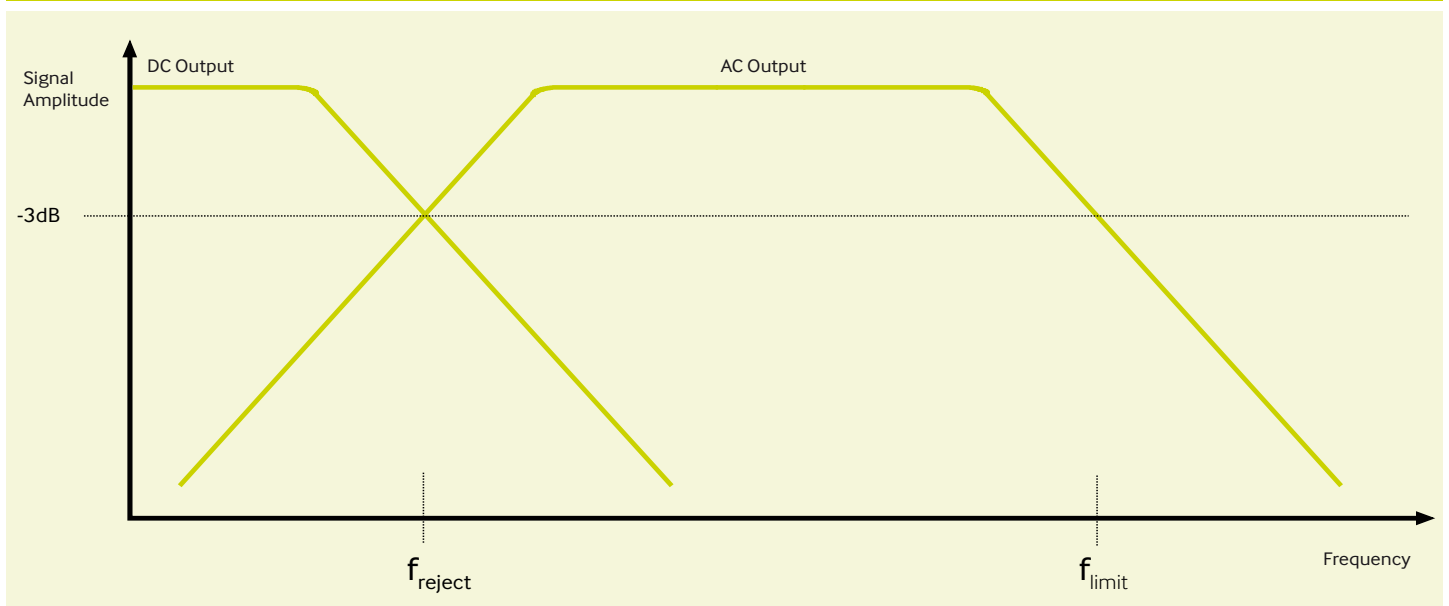
To operate the range of detectors the leads should be connect in the below configuration.

		Hawkeye Detector
Pin 1	Red Lead	+5 Vdc to +10Vdc
Pin 2	Black Lead	0 Volts
Pin 3	Yellow Lead	AC Out
Pin 4	Blue Lead	DC Out

## Outputs

Each Hawkeye Detector provides two outputs, AC and DC to be used as required by the application, an AC output for higher frequency modulated signals and a DC output for CW or lower frequency modulated signals. Each output's frequency response is referenced to -3dB. Please see graph below.

### Typical Frequency Response



$f_{reject}$  and  $f_{limit}$  values can be seen in the table below.

Model	$f_{reject}$	$f_{limit}$	DC Sensitivity	AC Sensitivity
Standard	1 kHz	750 kHz	1V/mW	1Vp-p/mW
High Gain	1 kHz	> 100 kHz	1V/mW	1Vp-p/0.1mW *
High Frequency	10 kHz	750 kHz	1V/mW	1Vp-p/mW

**Notes** \* To achieve the full 10V p-p signal output on High Gain models, the unit must have a supply of atleast 10Vdc.

## AC Output

Pin 3 (Yellow Wire) provides an output for higher frequency modulated signals.

The Standard and High Frequency models have an output sensitivity of 1Vp-p output for every 1mW of detected laser power. The output is DC coupled with a 2.5V offset about which the output is centred.

The High Gain model has a sensitivity of 1Vp-p for every 0.1mW of detected laser power (10Vp-p/mW maximum). For the maximum output of 10V p-p, a supply voltage of at least 10V is required. The output is DC coupled and with a 10V supply voltage there is a 5V offset about which the output is centred. With supply voltages between 5 & 10V the offset is proportional.

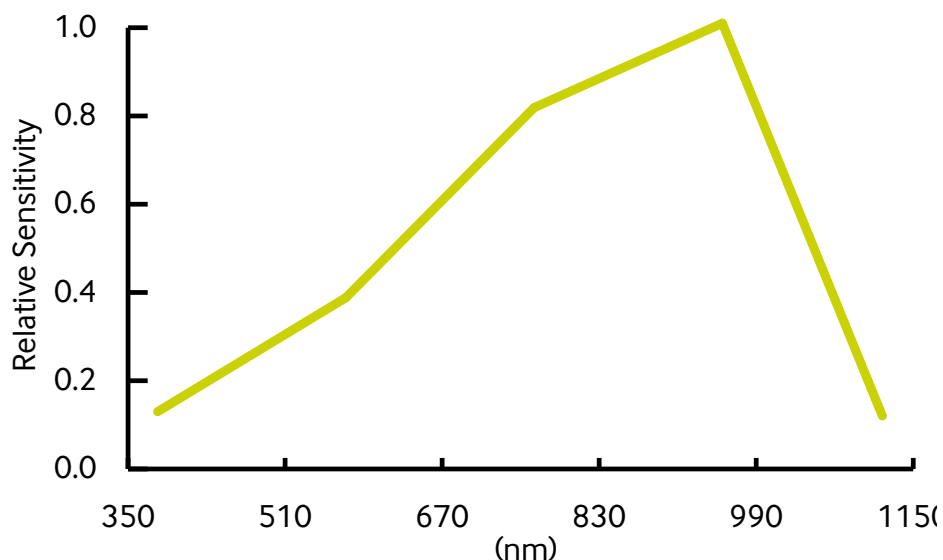
## DC Output

Pin 4 (Blue wire) provides a DC output for CW and lower frequency modulation. The sensitivity for each of the models is 1V/mW at 650nm, please see the relative sensitivity chart below for alternative wavelength characteristics.

Output sensitivity for both outputs is at 650nm, please see the relative sensitivity chart below for alternative wavelength characteristics.

## Relative Sensitivity

The profile below shows the sensitivity of Hawkeye Detector and different wavelengths.



# 3. Mounting

The front sleeve of the Hawkeye can be removed to expose a thread front barrel (M12X1 Thread) which can be used to mount the Hawkeye to a bulkhead or a mounting plate. Alternatively the sleeve can be left in place and a mounting clamp can be used.

There are two mounting clamps available as standard from Global Laser for the Hawkeye. 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 preventing 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. An 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.

## **3A Mounting the Hawkeye in the Heavy Duty Clamp**

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

## **3B Mounting the Hawkeye Detector in the Heavy Duty Clamp with the Magnetic Base**

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

### **3C Mounting the Hawkeye Detector in the Swivel Mount**

1. Un-tighten Allen screw A (see drawing D)
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 allen screw B (see drawing D). 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 D). 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 D for thread details).

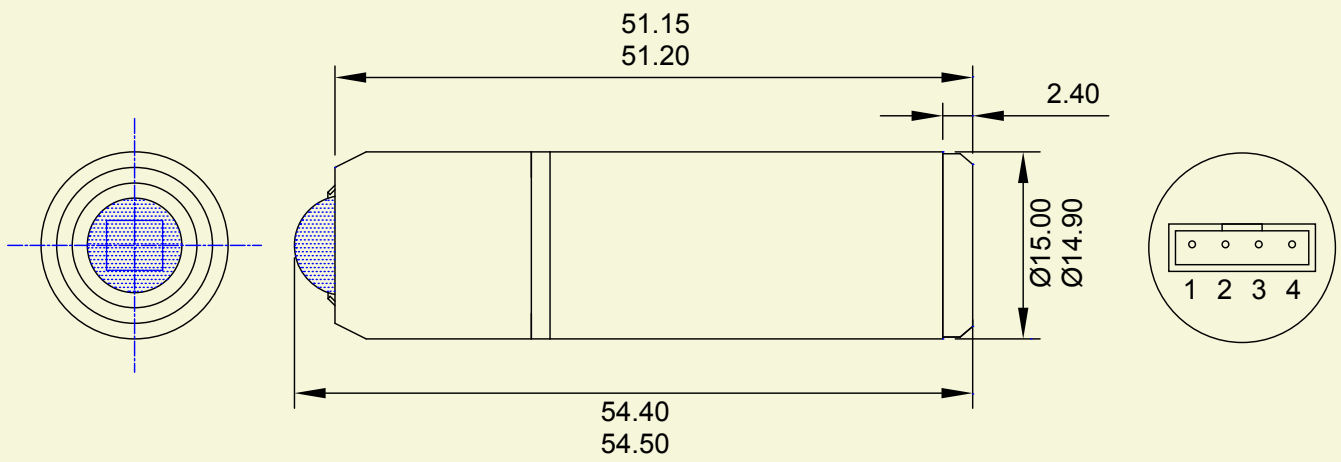
## **4. Warranty & Repair**

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:

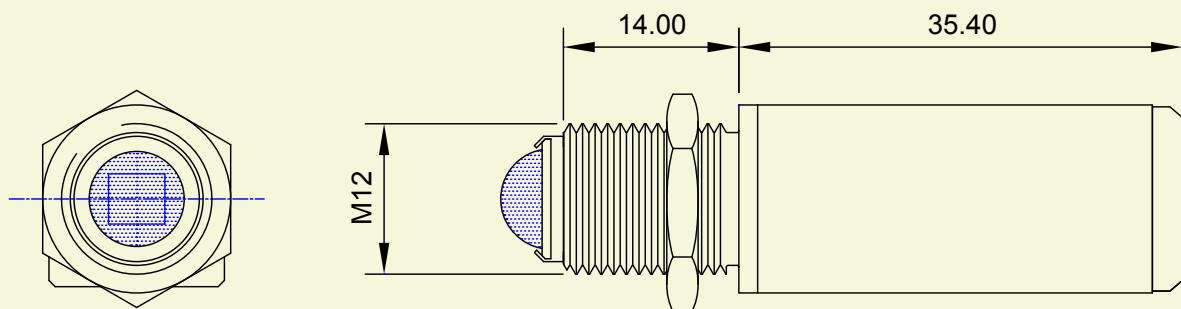
Global Laser Ltd  
Units 9-10  
Roseheyworth Business Park  
Abertillery  
Gwent, NP13 1SP  
United Kingdom

# 5. Diagrams

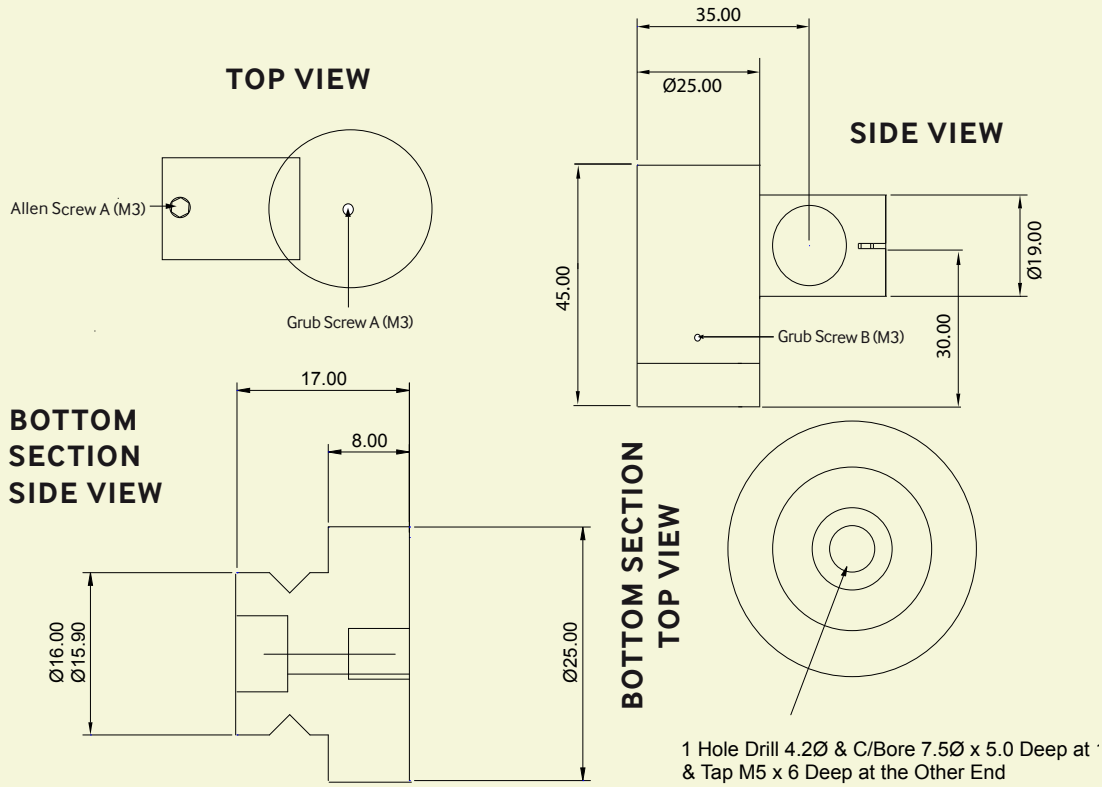
## A) Hawkeye Detector



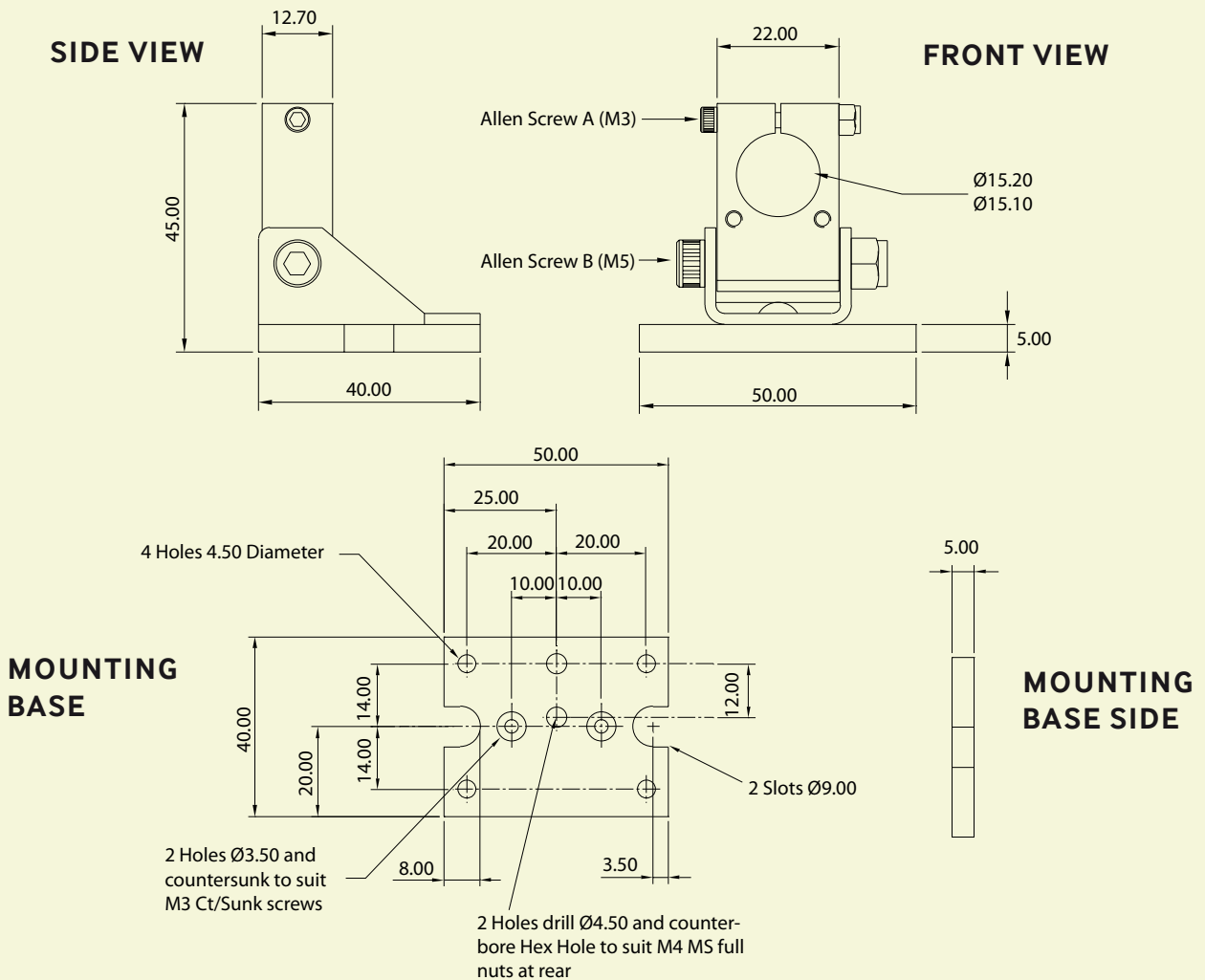
## B) Hawkeye Detector without Front Sleeve



### C) Heavy Duty Mounting Clamp

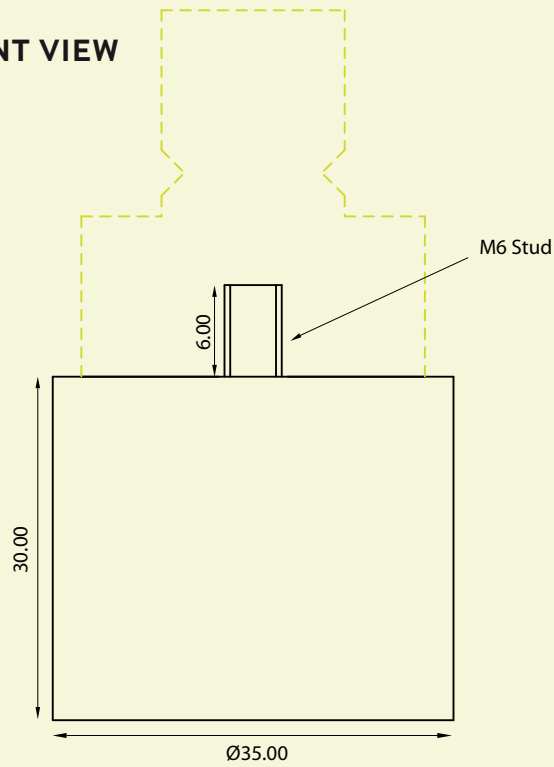


### D) Swivel Mount



## E) Magnetic Base

### FRONT VIEW



Drawings are not to scale.

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



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:

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