GuideLine-2

Highly Visible Alignment Lasers for Visually Demanding Surfaces

GuideLine-2 Range

The GuideLine-2 is a reliable and robust industrial alignment laser suitable for a wide range of applications, including the alignment and positioning of materials like garments, cloth, paper, wood, and metal. Its features include IP67 protection, an M18 threaded barrel, and the ability to operate from industrial voltage sources such as 24Vdc.

The laser can be supplied in two wavelengths: 635nm which is the brightest red wavelength and 520nm green, which is ~4 times brighter than the equivalent power in 635nm. Both wavelengths are offered in powers of are 10mW and 40mW. To accommodate different requirements, options available include line generators, featuring fan angles ranging from 20 to 90°. In addition there are two different cross projections to choose from. Users can easily adjust the focus using an external control ring (no need to remove any lenses).

The GuideLine-2 boasts an IP67 rated housing, safeguarding it from dirt and debris, and a M18 threaded barrel that simplifies mounting with bulkheads and mounting blocks. For electrical connection, it utilizes an IP67 jack plug with an operating voltage input range of 5-30Vdc (10-30Vdc for 520nm models).

Complementing the GuideLine-2, a comprehensive range of accessories is available, including mounting clamps, rail systems, mains power supplies, and laser safety and enhancement glasses.

In summary, the GuideLine-2 offers versatility, durability, and precision, making it an ideal solution for various industrial alignment needs.

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Selection Guide

This catalogue covers our complete GuideLine-2 range and is broken down into various sections. Please use the guide below to go straight to the relevant section.

Key Features

Highly Visible Red and Green Laser Outputs

Available in two power levels in 635nm, which is the brightest red wavelength. The GuideLine-2 635nm 10mW provides an economical entry level models for application were low levels of ambient light or shorter working distance are present. The GuideLine-2 635nm 40mW provides more output power to compensate for increases in working distance or ambient light levels.

For the most visually demand application were higher levels of ambient light are present, the material is absorbent to red wavelengths or at longer working distances, two version in 520nm green are available which is ~4 times more brighter to the human eye then the same power in 635nm is available.

IP67 Housing

The GuideLine-2 features a rugged IP67 rated housing which ensure protection of the internal optics from liquids' and debris, while still allowing the user to adjust the focus of the laser.

The threaded barrel allows the user to mount the laser to bulkheads and mounting blocks while ensuring continues heat sinking, two mounting nuts are supplied to assist with this. Alternatively, Global Laser has a number of compatible mounting clamps and rail systems for the GuideLine-2.

External Focus Control

If the user requires the focus to be adjusted (alter the line thickness/ cross line thickness) this can be done by turning the focusing control (brass knurled section) on the middle of the laser until the desired result is achieved. This allows the laser to be set to each individual application or subject material if required.

Operating Voltage

The GuideLine-2 can be powered from an industry standard 24Vdc supply. The 635nm models feature an input voltage range of 5-30Vdc, while 520nm models require 10-30VDC. A number of 110/240V AC power adaptors are also available for users with a mains supply.

GuideLine-2 - Red 10mW Version

	GuideLine-2 635nm, 10mW 20° Line	GuideLine-2 635nm, 10mW 56° Line	GuideLine-2 635nm, 10mW 90° Line	GuideLine-2 635nm, 10mW 14° Cross	GuideLine-2 635nm, 10mW 65° Cross
Mechanical Information					
Mass (grams)	98				
Dimensions (mm)	19/M18				
Length (mm)	115				
Housing	Hard Anodised				
Isolated Body	Yes				
Connector Type	2.5mm IP67 DC				
Optical Information					
Diode Power (mW)	10				
Wavelength (nm)	635				
Line Fan Angle (°)	20	56	97	N/A	N/A
Cross Fan Angle (°)	N/A	N/A	N/A	14	65
Line Type	Gaussian				
Factory Set Focus Distance (meter)	1				
Typical Line Width @1m (@1e ²) (µm)	<500	<550	<400	<1200	<1400
Typical Line Length @1m (mm)	~350	~1000	~2260	~245	~1270
User Adjustable Focus	Yes				
Laser Class (IEC 60825:1 2014)	3R	1M	1M	3R	1M
Environmental Information					
Operating Case Temperature (°C)	-10 to +45				
Storage Temperature (°C)	-10 to +80				
Operating Humidity (%RH)	90 (non condensing)				
MTTF @ 25°C (hrs)	≥ 50,000				
IP Rating	67				
Electrical Specifications					
Input Voltage (Vdc)	5 - 30				
Operating Current @ 5Vdc (mA)	≤60				
Operating Current @ 24Vdc (mA)	≤20				
Reverse Polarity Protection	Yes				

NOTES
All specifications are typical @ 25°C

GuideLine-2 - Red 40mW Version

	GuideLine-2 635nm, 40mW 20° Line	GuideLine-2 635nm, 40mW 56° Line	GuideLine-2 635nm, 40mW 90° Line	GuideLine-2 635nm, 40mW 14° Cross	GuideLine-2 635nm, 40mW 65° Cross
Mechanical Information					
Mass (grams)	98				
Dimensions (mm)	19/M18				
Length (mm)	115				
Housing	Hard Anodised				
Isolated Body	Yes				
Connector Type	2.5mm IP67 DC				
Optical Information					
Diode Power (mW)	40				
Wavelength (nm)	640				
Line Fan Angle (°)	20	56	97	N/A	N/A
Cross Fan Angle (°)	N/A	N/A	N/A	14	65
Line Type	Gaussian				
Factory Set Focus Distance (meter)	1				
Typical Line Width @1m (@1e ²) (µm)	<500	<550	<400	<1200	<1400
Typical Line Length @1m (mm)	~350	~1000	~2260	~245	~1270
User Adjustable Focus	Yes				
Laser Class (IEC 60825:1 2007)	3B	3R	1M	3R	1M
Environmental Information					
Operating Case Temperature (°C)	-10 to +45				
Storage Temperature (°C)	-10 to +80				
Operating Humidity (%RH)	90 (non condensing)				
MTTF @ 25°C (hrs)	≥ 50,000				
IP Rating	67				
Electrical Specifications					
Input Voltage (Vdc)	5 - 30				
Operating Current @ 5Vdc (mA)	≤100				
Operating Current @ 24Vdc (mA)	≤30				
Reverse Polarity Protection	Yes				

NOTES
All specifications are typical @ 25°C

GuideLine-2 - Green 10mW Version

	GuideLine-2 520nm, 10mW 20° Line	GuideLine-2 520nm, 10mW 56° Line	GuideLine-2 520nm, 10mW 90° Line	GuideLine-2 520nm, 10mW 14° Cross	GuideLine-2 520nm, 10mW 65° Cross
Mechanical Information					
Mass (grams)	98				
Dimensions (mm)	19/M18				
Length (mm)	115				
Housing	Hard Anodised				
Isolated Body	Yes				
Connector Type	2.5mm IP67 DC				
Optical Information					
Diode Power (mW)	10				
Wavelength (nm)	520				
Line Fan Angle (°)	20	56	97	N/A	N/A
Cross Fan Angle (°)	N/A	N/A	N/A	14	65
Line Type	Gaussian				
Factory Set Focus Distance (meter)	1				
Typical Line Width @1m (@1e ²) (µm)	<500	<550	<400	<1200	<1400
Typical Line Length @1m (mm)	~350	~1000	~2260	~245	~1270
User Adjustable Focus	Yes				
Laser Class (IEC 60825:1 2007)	3R	1M	1M	3R	1M
Environmental Information					
Operating Case Temperature (°C)	-10 to +55				
Storage Temperature (°C)	-10 to +80				
Operating Humidity (%RH)	90 (non condensing)				
MTTF @ 25°C (hrs)	≥40,000				
IP Rating	67				
Electrical Specifications					
Input Voltage (Vdc)	10 - 30				
Operating Current @ 10Vdc (mA)	≤50				
Operating Current @ 24Vdc (mA)	≤25				
Reverse Polarity Protection	Yes				

NOTES
All specifications are typical @ 25°C

GuideLine-2 - Green 40mW Version

	GuideLine-2 520nm, 40mW 20° Line	GuideLine-2 520nm, 40mW 56° Line	GuideLine-2 520nm, 40mW 90° Line	GuideLine-2 520nm, 40mW 14° Cross	GuideLine-2 520nm, 40mW 65° Cross
Mechanical Information					
Mass (grams)	98				
Dimensions (mm)	19/M18				
Length (mm)	115				
Housing	Hard Anodised				
Isolated Body	Yes				
Connector Type	2.5mm IP67 DC				
Optical Information					
Diode Power (mW)	40				
Wavelength (nm)	520				
Line Fan Angle (°)	20	56	97	N/A	N/A
Cross Fan Angle (°)	N/A	N/A	N/A	14	65
Line Type	Gaussian				
Factory Set Focus Distance (meter)	1				
Typical Line Width @1m (@1e ²) (µm)	<500	<550	<400	<1200	<1400
Typical Line Length @1m (mm)	~350	~1000	~2260	~245	~1270
User Adjustable Focus	Yes				
Laser Class (IEC 60825:1 2007)	3B	3R	1M	3R	3R
Environmental Information					
Operating Case Temperature (°C)	-10 to +55				
Storage Temperature (°C)	-10 to +80				
Operating Humidity (%RH)	90 (non condensing)				
MTTF @ 25°C (hrs)	≥ 10,000				
IP Rating	67				
Electrical Specifications					
Input Voltage (Vdc)	10 - 30				
Operating Current @ 10Vdc (mA)	≤100				
Operating Current @ 24Vdc (mA)	≤50				
Reverse Polarity Protection	Yes				

NOTES
All specifications are typical @ 25°C

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 97° will be longer than a line of 20°.

Fan Angle (°)	Distance to Object (mm)	Line Length (mm)
20	**100**	**35**
97	**100**	**226**

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

		Fan Angle (°)			
		20°	**56°**	**65°**	**97°**
Distance From Object (mm)	**250**	88	266	319	565
	500	176	532	637	1130
	750	264	798	956	1695
	1000	353	1063	1274	2261
	1250	441	1329	1593	2826
	1500	529	1595	1911	3391
	1750	617	1861	2230	3956
	2000	705	2127	2548	4521
	2250	793	2393	2867	5086
	2500	882	2569	3185	5651
	2750	970	2924	3504	6217
	3000	1058	3190	3822	6782
	3250	1146	3456	4141	7347
	3500	1234	3722	4459	7912
	3750	1322	3988	4778	8477
	4000	1411	4254	5097	9042
	4250	1499	4520	5415	9608
	4500	1587	4785	5734	10173
	4750	1675	5051	6052	10738
	5000	1763	5317	9371	11303
					Line Length (mm)

Visibility

For more visually demand applications it is recommended that the 520nm green models are used. A 520nm model is ~ 4 times brighter then the same model in 635nm. Laser Enhancement Glasses can also be enhance projections from the 635nm models which is usefull were there are high levels of ambient light.

Optional Accessories

The GuideLine-2 has a wide range of options to suit a variety of applications. These options include mounting clamps, power supplies, rail systems and laser safety glasses.

Mounting Clamps

The heavy duty mounting clamp allows the GuideLine-2 to be securely fixed at any required direction or angle. The base plate has a series of threaded holes which allows the clamp to be fixed directly onto a machine or workbench. The pillow block bearing mount contains a spherical rolling element that serves as a rotational bearing. Enables quick adjustment of the direction in one quick and easy movement without the need for an Allen key. The bearing also provides enough fiction to keep the pointing direction stable. For more information on any of these options please refer to the Accessories Datasheet.

Heavy Duty Mounting Clamp

Magnetic Mounting Base

Pillow Block Bearing Mount

Power Supplies and Leads

For users that require an off the shelf power supply a 110/240 Vac power adaptor is available. A 5V version will power all 635nm versions and a 10V will power all 520nm version of the GuideLine-2. For more information on any of the options please refer to the Accessories Datasheet. A range of power leads are also available ranging in length from 2 to 10 meters. Custom lengths are available upon request.

110 / 240 Vac Power Adaptor

Power Leads

Laser Safety Glasses

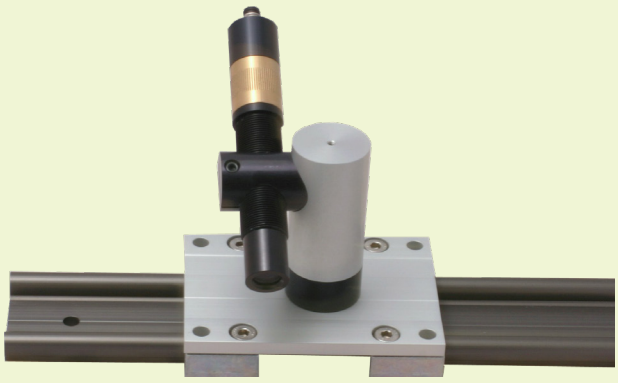
To compliment the Cameo range there are a number of laser safety glasses. These provide a protection or block out for a wide range of wavelengths. Below is an example of some of the available styles. For more information on any of the options please refer to the Laser Safety Glasses Datasheet.

Overglasses Style

Wraparound Style

Mounting Rails

Options range from the simple slide rail system were carriages can be moved by hand and locked into position, to computer controlled, motor driven systems. All systems incorporate long life/low friction polymer bearings which are self lubricating, removing the need for messy dirt, attracting oils and greases. All rail systems are also available in stainless steel. This makes the systems ideal for aggressive environments with high levels of dirt and dust or areas subject to wash down or high levels of moisture.



Rail and Mounting Clamp

Laser Enhancement Glasses

To compliment our wide range of alignment laser diode modules we have introduced a range of Laser Enhancement Glasses. One set which enhance projections in the red wavelength range (630-670nm) and another in the green wavlength range (510-580nm). These work by blocking light in other wavelengths, thus improving the visibility in outdoors or bright lighting condition's. The glasses also meet ANSI Z87 impact standard.

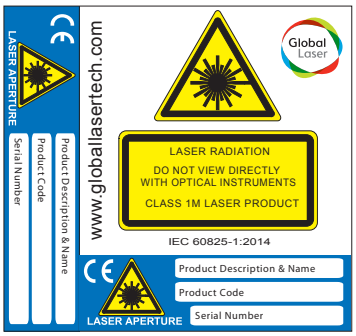
Red Laser
Enhancement Glasses

Green Laser
Enhancement Glasses

Please Note: these are not laser safety glasses, but are conventional safety glasses that enhance the visibility of green wavelengths and do not protect the wearer's eye from the laser. It is recommend that these glass are only used with lasers were the output power conforms to class 2 and 2M.

Laser Safety

Our lasers are compliant to IEC 60825-1:2014 standards. The lasers fall within one of the following classifications depending on power and wavelength. Examples of the labels are shown below.



Class 1M Label

Class 2M Label

Class 3R Label

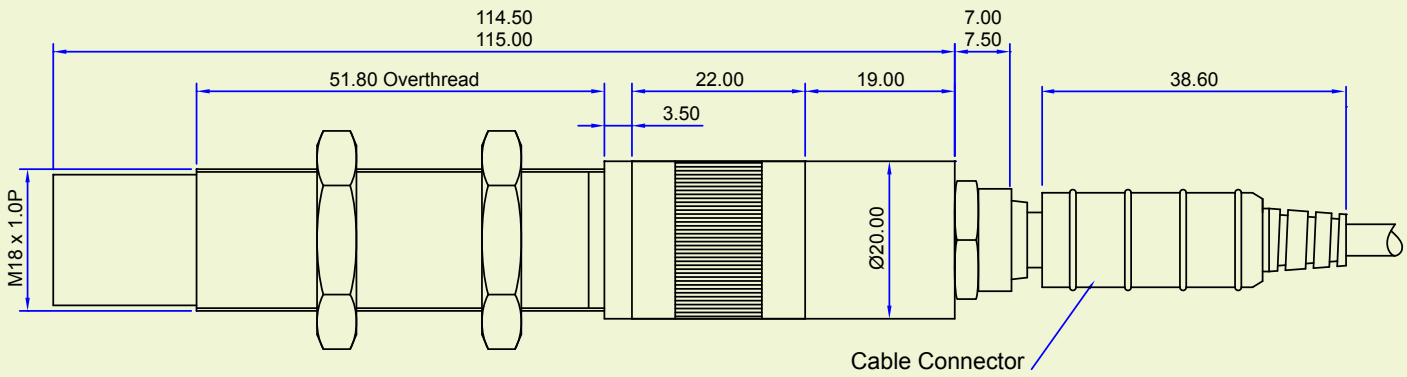
Class 3B Label

Quality & Warranty

The GuideLine-2 range is supplied with a 12 month parts and labour warranty. Our manufacturing operations are certified to ISO9001:2015.

Mechanical Dimensions

GuideLine-2 Outline



Drawings are not to scale

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 rights to change descriptions and specifications without notice.

Manufacturing Operations Certified to ISO9001

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

Global Laser Ltd
Unit 9-10
Roseheyworth Business Park
Abertillery. Gwent NP13 1SP UK