
# Survelase Datasheet

*Long Distance Targeting Laser*

# Survelase

The Survelase is a long-distance targeting laser diode module that produces a small well-defined spot up to 140m away. The high quality output beam afforded by the Survelase is beneficial in range-finding, positioning, surveying, or general measurement applications involving large working distances.

Wavelengths of green (520nm) and red (635, 650nm) are available with output powers up to 5mW. The green model emits light that appears more than 2X brighter to the human eye than the equivalent power in 635nm. As a result, you're more likely to see these projections against dark materials or in high ambient light levels (e.g. daylight).

The Survelase can optionally be installed with a TTL modulation input allowing you to drive your laser using a digital voltage signal. You can then change the mark-to-space ratio to control the mean intensity of the output beam, modulate the laser with coded information, or synchronise the laser with an external measurement device such as a photodetector or camera.

A user-adjustable focus is another optional feature of the Survelase. A focus key (purchased separately) allows you to focus the laser as required in your application without removing the internal collimating optic. This provides flexibility, ease-of-use, and allows you to maintain the specified laser classification.

The Survelase can be supplied with a choice of mounting accessories that allow you to aim the laser in almost any direction whilst securing the laser to a machine or workbench. Please contact your local distributer or Global Laser on sales@globallasertech.com if you wish to discuss your application or require a customised solution.

# Specifications

| | 515nm | 635nm | 650nm |
|---|---|---|---|
| **Mechanical Information** | | | |
| **Mass** (grams) | 22 | | |
| **Dimensions** (mm) | 15 by 58.5 | | |
| **Housing** | Anodized Aluminium | | |
| **Isolated Body** | Yes | | |
| **Lead Length** (mm) | 215 | | |
| **Connector Type** | Flying Leads | | |
| **Input Leads** | Red Lead: Plus Volts | | |
| | Black Lead: 0 Volts | | |
| | Blue Lead: Optional TTL | | |
| **Optical Information** | | | |
| **Wavelength** (nm) * | 515 | 635 | 650 |
| **Output Power** (mW) | 5 | 1, 3, 5 | 1, 3, 5 |
| **Power Stability Over Temperature** ** | ±2% (5°C - 55°C) | ±3% (15°C - 45°C) | |
| **Focus** | Collimated or Adjustable | | |
| **Beam Size At Aperture** (mm) | 7.5 | | |
| **Optimum Collimation Distance** (m) | 140 (@ 635nm | | |
| **Distance To Waist** (m) | 70 (@ 635nm | | |
| **Beam Divergence (Full Angle)** (mrad) ** | 0.25 | | |
| **Minimum Focus Distance** (mm) | 200 | | |
| **Minimum Spot Size** (µm) ** | <50 | | |
| **Boresight** (mrad) ** | ≤2.5 | | |
| **Environmental Information** | | | |
| **Operating Case Temperature** (°C) | -10 to +55 | -10 to +45 | |
| **Storage Temperature** (°C) | -10 to +85 | | |
| **Operating Humidity** (%RH) | 90 (non condensing) | | |
| **MTTF @ 25°C** (hrs) | ≥40,000 | ≥30,000 | ≥50,000 |
| **Electrical Specifications** | | | |
| **Input Voltage +ve** (Vdc) (Red Lead) | 10 ±5% | 3.5 to 5.0 | |
| **Input Voltage** (Vdc) (Black Lead) | 0 | | |
| **TTL Bandwidth** (kHz) ** | ≤10 | ≤1 | |
| **Reverse Polarity Protection** | Yes | | |
| **Operating Current** (mA) ** | 25 - 110 | | |

**NOTES**
* Please note wavelength tolerance can vary typically by ± 10nm.
** Typical value, varies with laser diode. Call us for individual data.
All specifications are typical @ 25°C

Focus
The Survelase is available in two versions. One has the laser focus set to collimation and the second is focused at your required focusing distance. Please state at time of order which version you require and if you need a focus key as this is supplied as a seperate item

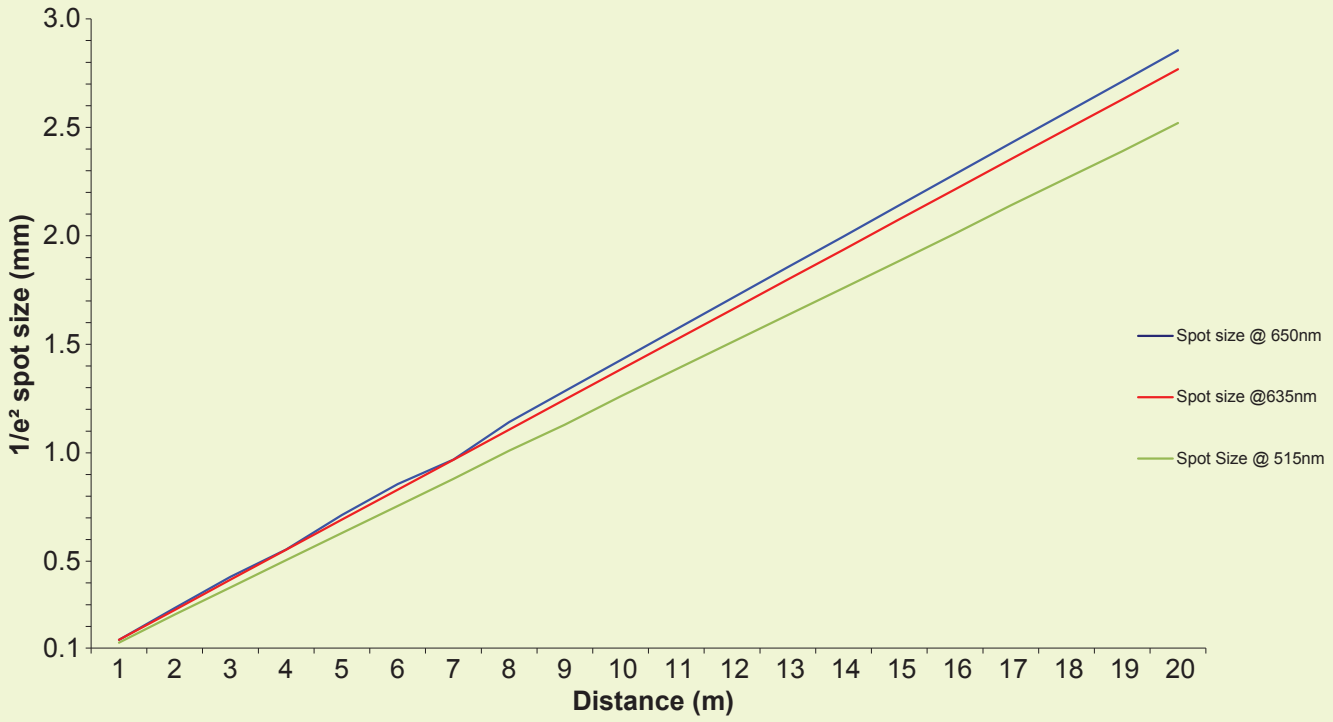
Modulation
The Survelase can be ordered with optional TTL modulation which is driven via a third (blue) input wire. Output is non-inverted.

Custom Options
Please note that custom wavelengths and powers are possible. Please call us with your requirements.

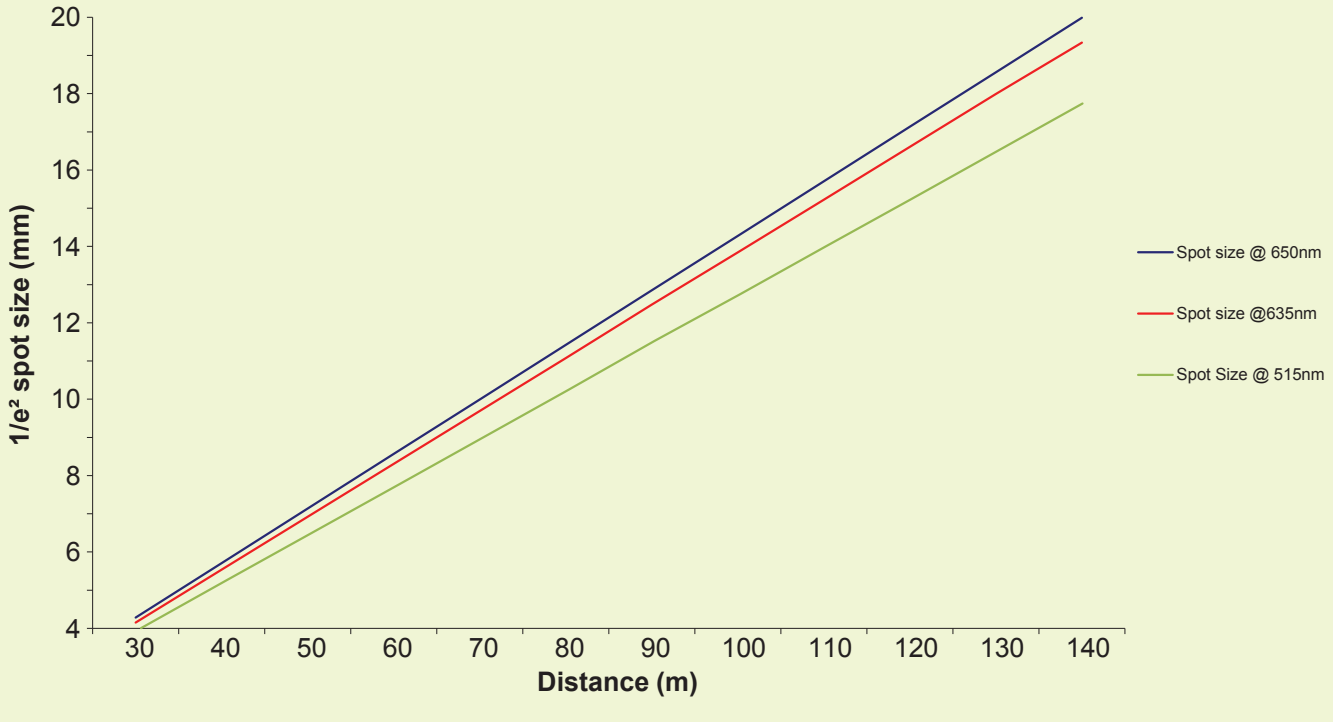
# Focusing Characteristics

The Survelase is available in two versions. One has the laser focus set to collimation and the second is focused at your required focusing distance.  Please state at time of order which version you require and if you need a focus key as this is supplied as a seperate item.

## Short Range Spot Size




## Long Range Spot Size



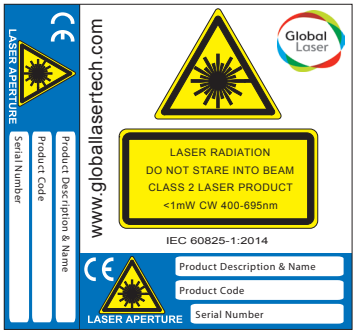
# Modulation

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 diode failure. This is because laser diodes are very sensitive to voltage spikes and surges that are often the result of uncontrolled supply switching.

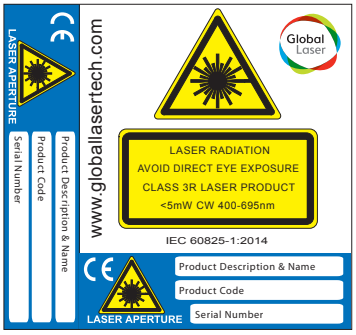
To overcome this limitation the Survelase can be installed with a third input wire that enables reliable and predictable laser TTL modulation. A logic LOW level turns the output completely OFF. However, applying logic HIGH turns the laser ON after a control input delay. This sets the maximum rate at which the module can switch fully ON and OFF.

# 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 2 Label




Class 3R Label

# Quality & Warranty

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

# Options & Accessories

The Survelase laser modules have a wide range of options to suit a variety of applications. These options include mounting clamps and laser safety glasses.

**Mounting Clamps**

The heavy duty mounting clamp allows the Survelase 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

**Laser Safety Glasses**

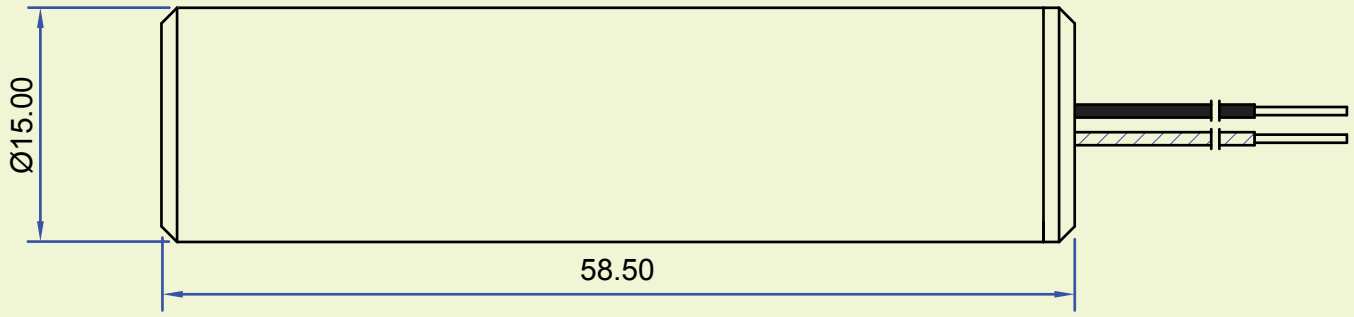
To compliment the Survelase range there are a number of laser safety glasses. These provide a protection or block out for a wide range of wavelengths. Below is an example of some of the available glasses styles. For more information on any of the options please refer to the Laser Safety Glasses Datasheet.

Overglasses Style

Wraparound Style

# Mechanical Dimensions

## Survelase Laser Module




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.

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