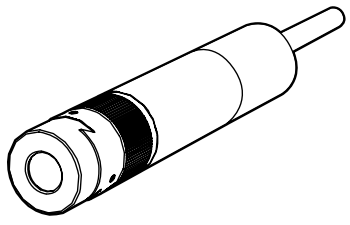
Laser Line Generator

Datasheet



- Laser line uniformity up to 95% on 100% of the line
- External user focus mechanism
- Photo feedback for optimal power stability up to 500 kHz
- Dynamic line balancing for repeatable performance
- Robust thermal management, providing better stability and longer lifetime
- Remote laser monitoring and control via RS-232 communication
- Precision refractive optics

Model	Description
LLG660P10A60II	Laser Line Generator 660 nw, 10 mW, 60 degree fan angle, Class II CDRH, 0.5 m cable with flying leads

The length of generated line is a function of the laser fan angle and the working distance of the object. The fan angle of the laser is 60°, making the length of the generated laser line is equal to the working distance.

Specifications

Wavelength
660 nm Center wavelength at 25 °C

Output Power
10 mW max.

Operating Voltage
5 to 24V dc

Operating Current
185 mA max. at 25 °C

Power Consumption
3 W max.

Long-Term Power Stability (8 hrs ± 3°C)
< 5 %

ESD Protection
Level 4

Straightness (%) > 25 mm Line
0.1%

Ambient Temperature
Operating Conditions:
−10 °C to +50 °C (+14 °F to +122 °F)
Non-Operating Conditions:
−20 °C to +60 °C (−4 °F to +140 °F)

Shock Tolerance (g) (6ms)
30

Wavelength tolerance
+7 nm/–10 nm

Input Impedance
1.5 kΩ

Beam Angle
< 3 mrad

Fan Angles
60° at 80% clip

Pointing Stability Over Temperature
< 10 µrad/°C

RMS Noise (20 Hz to 20 MHz)
< 0.5 %

Peak to Peak Noise (20 Hz to 20 MHz)
< 1%

Warm-Up Time
< 5 minutes from cold start

Mechanical Specifications
Weight: < 70 g
Length: 95 mm standard configuration; 98 mm accessory configuration
Diameter: 19.05 mm
Material : Black annodized AL 606_1T_1

Connection
0.5 m (1.6 ft) cable with flying leads

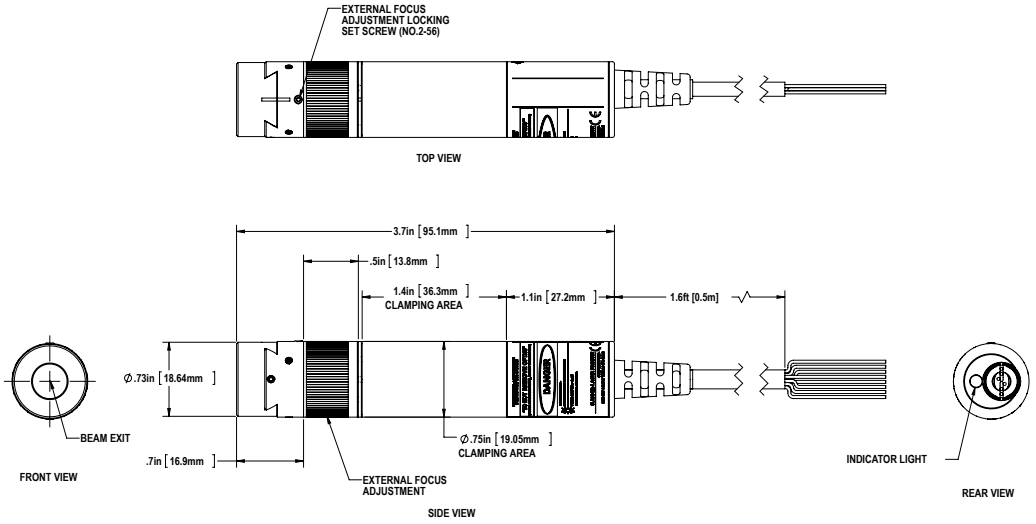
Certification

P/N 171923 Rev. B

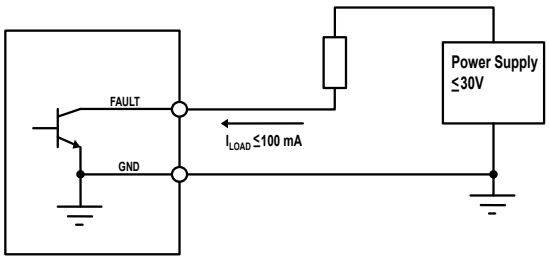
24 January 2014

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Dimensions



Hookup



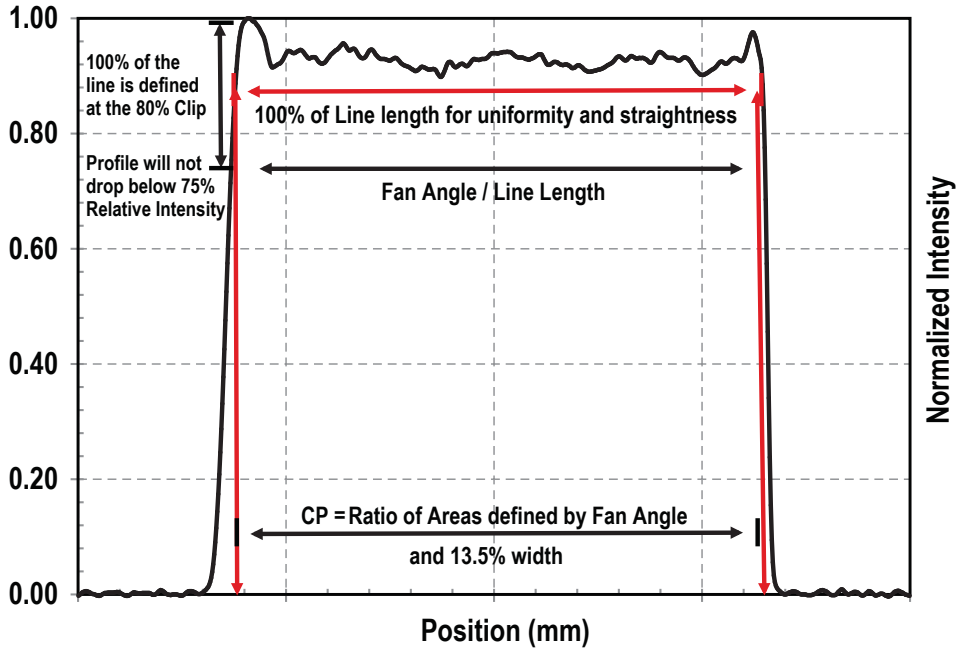
Fault output is an open collector of the transistor that allows wire junction OR functionality with fault signals from other devices. The output can tolerate voltage up to 30V and can drain the current up to 100 mA. The circuit is protected from over current by recoverable fuse.

Wire Color	Assignment
Black	V ground
Blue	V mod
Red/Black	V mod ground
White	RS 232 Recv
White/Black	RS 232 ground
Orange	RS 232 Trans
Red	V in
Green	Fault

Definitions

Uniformity	Max relative intensity variation over 100% of the time $U = (I_{max} - I_{min}) \div (I_{max} + I_{min})$
Contained Power	Power contained in the 100% line at the 80% Clip versus the power contained in the 13.5% Clip CP = 80%P ÷ 13.5%P
Line Length / Fan Angle	Fan angle is the angle of the projection taken at the 80% Clip Line length is the physical length at a given working distance taken at the 80% Clip
Relative Illumination Floor	This is the minimum relative intensity at any point on the define line length Measured as a % of the normalized intensity
Straightness	Deviation from best fit line $\Delta = \Delta_1 + \Delta_2$ S = (Δ/L)*100

Flat-Top Intensity Profile



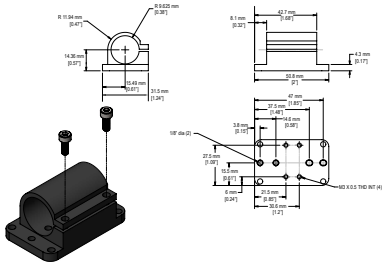
Accessories

- FLTMR-660 Red filter kit, 13.5 mm diameter, 1 mm thick, for iVu sensors
- FLTR-660 Red filter kit, 13.5 mm diameter, 1 mm thick, for C-mount lenses

Brackets

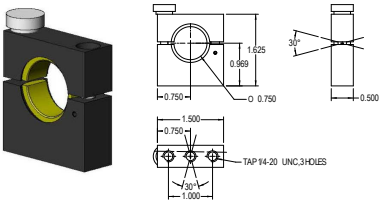
SMBLLG

Mounting bracket with heat sink



SMBLLGS

Swivel mounting bracket



Power Supply

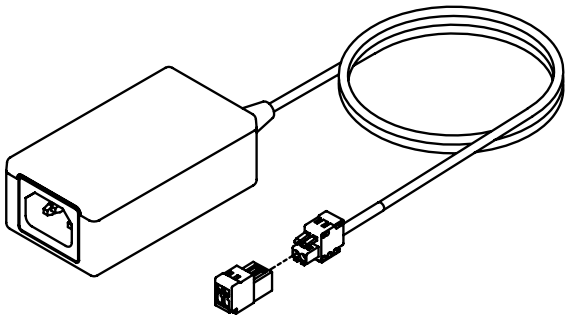


Figure 1. PSLLG12V 12V Terminal Block Power Supply

Cautions and Warnings

Danger:

Do not point the laser toward an eye. Wear appropriate laser safety goggles at all times when the laser is operational.

Danger:

The laser light emitted by this laser may be in the infrared area of the electromagnetic spectrum and may not be visible to the human eye. Use extreme caution at all times when using the laser.

Danger:

The output power of this laser is high enough to cause permanent damage to the human eye. Wear appropriate laser safety goggles at all times when the laser is operational.

WARNING: Not To Be Used for Personnel Protection

Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

WARNING:

These structured light devices meet CDRH Class II and IIIa only as complete assemblies. Removal of the optical head (image generating optics) for cleaning could expose personnel to hazardous laser radiation (sometimes equivalent to a Class IIIb/3B laser) and will void the product safety classification. Turn the laser off whenever the optical head is removed, unless alignment is being performed. Use extreme caution when performing these servicing operations and wear appropriate eyewear at all times. Servicing operations must be performed by personnel trained to manipulate Class III/3B lasers. Never look directly at a raw laser beam. Banner will not be held liable for any injuries caused by product misuse.

WARNING:

Do not place any flammable objects directly in from of the free, non-extended beam (without the line generating optics), especially with higher power beams.

WARNING:

Use caution around all laser products. Lasers are highly concentrated light sources, some invisible to the eye. Never point a laser beam into your—or any other person's—eyes; permanent damage to the retina can occur!



WARNING:

Use extreme caution at all times when the laser is in use.

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