

GTI LASER Illuminator, Model GTI-LI-K-1.1 Operators Manual

Description:

The Model GTI-LI-K-1.1 IR Illuminator is a compact infrared laser light source, utilizing a 980 nm solid state laser module. The intended application of this device is illumination of interior spaces for the purpose of covert video capture. **Do not operate this laser product for non-illumination purposes or in unapproved locations.**

The unit provides a flood light pattern, utilizing a large area 1.62" light diffusing lens and operates with an infrared spectrum which is only slightly visible to generation two or before night vision technology. Because of this specialized spectrum, not all cameras will function within this wavelength. Please consult the camera manufacturer to confirm 980nm imager compatibility.

Basic Specifications:

Dimensions: 4.75"x3.0"x2.94"

Dimensions of Bracket: 4.0" with holes spaced at 3.8" and 2"

Total Unit Depth with Bracket and Lens Cover: 5.36"

Weight: 1lbs 15.3oz

Power: 12-24VDC @ 3 amps

Operational Noise: Low noise variable speed fan
25 Db max SPL @ maximum fan speed

Power Connection Jack: GT Contact part # GT1B0102

Required Power Plug: 5.5x2.5x9mm power plug (**Tip +**)

Laser Classification: Class I - 21 CFR 1040 COMPLIANT

Laser Spectrum: 980 nm

Control: 1/8" control jack interface (see Operation Section for details)

Operating Temperature Range: -40 to 140 deg F

MTBF: >10,000 hours

Mounting Position: Any orientation

Installation:

GTI-LI-K-1.1

The unit can be mounted in any position and provides for mounting via two ¼ - 20 threaded holes on the back of the unit (see figure 1). The unit requires a ¼ inch gap at the back of the unit to provide for ventilation in extended temp environments. Light is projected out of the front of the unit via a 1.62" round diffuser lens. Therefore, the front of the unit must face in the general direction desired for illumination. The illuminator is provided with a protective cover for the exposed diffuser lens on the front of the unit.

This protective cover provides extra safety for the user in environments where the illuminator could be exposed to

impact or rough handling (see figure 2). This cover can be removed via four screws, when the illuminator is installed inside a hardened enclosure. **When the face of the illuminator is unprotected, the protective cover should not be removed.**

Warning- The illuminator is not user serviceable and if the diffuser is damaged or removed, there is risk of serious eye injury. The labels (FIG 4) below are required to be present on the device at all times. Do not remove.

Fig 1: Laser Illuminator



Fig 2: Front View of Illuminator



Operation of the Illuminator:

"CAUTION - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure."

Power:

The unit operates from a nominal 12VDC power source utilizing a standard 5.5x2.5x9mm (**Tip +**) power plug (see fig 3). Any power supply that can source 12-24VDC; 1.5 amps at 24VDC or 3 amps at 12VDC will operate the illuminator. The provided power supply module has a low profile power plug

allowing use of a 2" mounting bracket for wall or ceiling mounting (provided with the illuminator). The unit is installed and the front directed toward the area of illumination.

Operational Control:

The illuminator can be controlled by two methods; one, by simply energizing and de-energizing the power to the unit. The illuminator can also be controlled via a 1/8" (3.5mm) tip/sleeve type connector (see fig3). The unit will **turn off** when the tip/sleeve connections of the connector are shorted via a contact closure of less than 1k ohm. When not shorted, unit will operate normally. The default state of the illuminator is **normally on** unless the contact closure connection is provided.

If the control connector is shorted as described above, **before the unit is energized**, then unit is powered; the illuminator will perform a self-test operation before going into normal operation mode. This self-test operation will delay normal operation up to 3 minutes and is not intended as a user mode of operation.

Functional Life Span:

The Illuminator utilizes a solid-state laser diode which has a limited useful lifespan. Because of this, it is important to turn the illuminator off when not in use. The mean time between failures is 10,000 hours. This means at 10,000 hours of operation, roughly 50% of the diodes will still be functioning properly. The illuminator is not user serviceable, but is designed to be quickly and inexpensively refurbished by the manufacturer, making the illuminator a cost effective and sustainable product. **Do not discard broken or nonoperational illuminators – return to manufacturer.**

Turn On Delay:

The normal operation mode of the illuminator is to energize and illuminate immediately upon control activation or power up. There are two conditions when the illumination activation can be delayed. This is because the internal operation is carefully managed to optimize laser output and lifespan. If the illuminator is turned off but in an ambient temperature of greater than 100deg F, the illuminator may take a few moments to internally compensate for the external ambient temperature conditions before illuminating, once it has been activated/turned on. If the unit has been operating for greater than 30 minutes and then is turned off for a brief interval (1 to 5 minutes for example), upon re-activation, there may be some illumination latency as described above.

Rear View Of Illuminator:



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