

Features

- 850nm infrared wavelength
- Illumination up to 131 feet (40 m)
- Infrared beam angle 30°
- Most advanced high performance IR LED modules
- Unregulated 28VDC airborne power operation
- Weather-tight housing
- Low power consumption of 6 W or less (at 28 VDC) when heater is not on.
- Operation down to -55 Deg C

General Description

The SRI-E0001 IR Illuminator provides near-IR light for viewing objects under a low light level condition compatible with Sekai's near-IR cameras. Its initial application was to provide light on a tarmac in the front of Unmanned Aerial Systems (UASs) during taxiing. It was designed and tested to operate reliably under harsh RTCA/DO-160G airborne environments.

The 850nm illumination covers a 30° angle, and up to 131 feet (40 meters). It is encased in a weather-tight machined aluminum housing with a scratch resistant sapphire window. An automatic heating system is used to enable operation at temperatures down to -55 °C. It accepts unregulated 28VDC required by most airborne applications, and enables standard day/night CCTV systems to deliver high-contrast images in complete darkness.

**Performance & Specifications****Frequency**

850nm

Illumination Beam Angle

30° minimum

Range

Up to 131 feet (40 m) of useful range.

Range is defined as useful picture from a Sekai RSC-BC103 camera using SVL-4.5/1.8NF lens.

LED ON/OFF Control

Control lines are part of the input power connector as defined below.

When the LED ENABLE (Pin 4) and ENABLE RETURN LINE (Pin 5) are open, the LED is on.

When the LED ENABLE (Pin 4) and ENABLE RETURN LINE (Pin 5) are shorted with less than 10 ohms, the LED will be off.

Supply Voltage

+18 to 34.3V DC (28VDC Nominal)

Power Consumption (Max)

Power consumption when only the LED is enabled, 6 Watts.

Power consumption when only the heater is on, 10 Watts.

Power consumption when both the heater and LED is enabled, 16 Watts.



Environmental Specifications

Operating Temperature: -55°C to +70°C
Storage Temperature: -55°C to +85°C
Relative Humidity: 5% to 95% non-condensing.
Storage Humidity: 95% (50°C) to 85% (38°C)

Mechanical Specifications

Housing: Machined Aluminum, 6061-T6
Finish: Black Hard Anodize per MIL-A-8625,
TYPE III, CLASS 2
Dimensions: See last page.
Weight: 260 ± 26 grams (0.57 ± .057 lbs)

Interface Specifications

Connector: 88-569771-35P
Mating Connector: D38999/26WA35SN
Strain Relief: M85049/38-9W

Connector Pin Configuration:

Pin No.	Signal
1	+28VDC
2	+28VDC RETURN
3	CASE GND
4	ENABLE
5	ENABLE RETURN
6	N/C

Airborne Standards

RTCA DO-160G applicable limits, procedures & categories:

- Section 4 Temperature and altitude – Category C2
- Section 6 Humidity – Category C
- Section 7 Operational shock and crash safety – Category A
- Section 8 Vibration – Category R curve G (Rotary Wing)
- Section 9 Explosion Proofness – Category E
- Section 10 Waterproofness – Category S
- Section 11 Fluid Susceptibility - Category F
- Section 12 Sand & Dust - Category S
- Section 13 Fungus Resistance - Category F
- Section 14 Salt Fog - Category S
- Section 16 Power input – Category B
- Section 17 Voltage Spike – Category B
- Section 18 Audio Frequency Conducted – Category Z
- Section 20 Radio Frequency Susceptibility – Category Y
- Section 21 Emission of RF Energy – Category M
- Section 22 Lightning induced Transient Susceptibility – Category A3G3L3
- Section 25 ESD – Category A

* Target values / tests, not yet tested. Consult with Sekai for the latest status.

Specifications are subject to change without notice.

Outline Drawing

