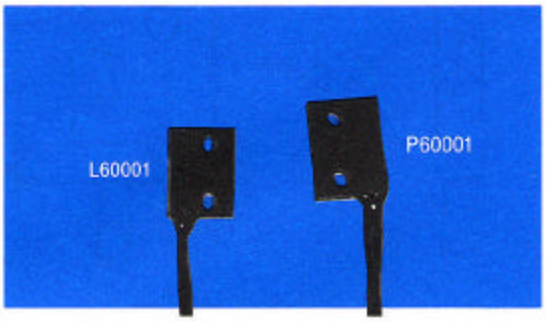
SKAN-A-MATIC®

CLAROSTAT SENSORS AND CONTROLS GROUP

THRUBEAMS
Subminiature LED/IRED Pair
L60/P60 Series

Features:

- Up to 36" separation with modulating control
- Beam Diameter: 0.06"
- Smallest Detectable Object: 0.02"
- Glass Lenses
- Rugged Polycarbonate Body
- Resistant to ambient visible radiation (P60001)
- Available with Red LED source (L/P60002)



Description:

A small and durable IRED or LED thrubeam pair designed for precise detection in areas where space is at a premium. Specially manufactured and selected IREDs, LEDs, and phototransistors are enclosed in glass-filled polycarbonate housings, each designed to mount in 0.02 in³ of equipment volume.

The energy from the radiation source can be detected by the companion sensor as far away as 36 inches (L/P60001 pair) and can be modulated to defeat the effects of ambient radiation. In the P60001, an integral IR-bandpass filter provides greater than 60 dB attenuation to wavelengths shorter than 700 nanometers. The P60002 has no optical filtering and may be used with either source (L60001 or L60002).

Solid-state components and rugged construction assure long life and trouble-free operation.

Typical Applications:

- Detecting Component Leads
- Edge Control
- Web Break
- Wire Break

Specifications: (at 25°C)

RADIATION SOURCE - IRED, L60001

Input	60 mA maximum with $1.1 \leq V_F \leq 1.7V$; derate at 1 mA/°C above 25°C ambient.
Modulated Input	120 mA max. at 1 kHz and 50% duty cycle.
Spectral Emission	940 nm peak
Reverse Voltage	2 V max.

RADIATION SOURCE - LED, L60002

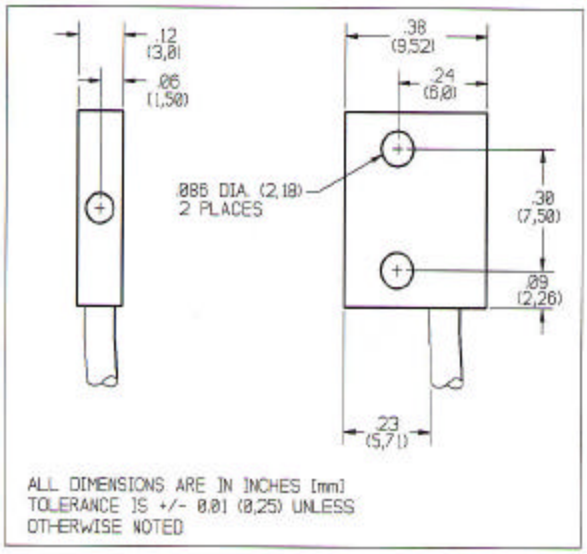
Input	40 mA maximum with $1.3\ V \leq V_F \leq 2.0$; derate at 0.7 mA/°C above 25°C ambient
Modulated Input	80 mA max. at 1 kHz and 50% duty cycle.
Spectral Emission	660 nm peak
Reverse Voltage	2 V max.

BODY	Glass-filled polycarbonate
TEMPERATURE	Operating: 0°C to 50°C Storage: -40°C to 50°C
LEADS	2 conductor, 26 AWG, PVC-insulated, 6 ft minimum length. Type P.

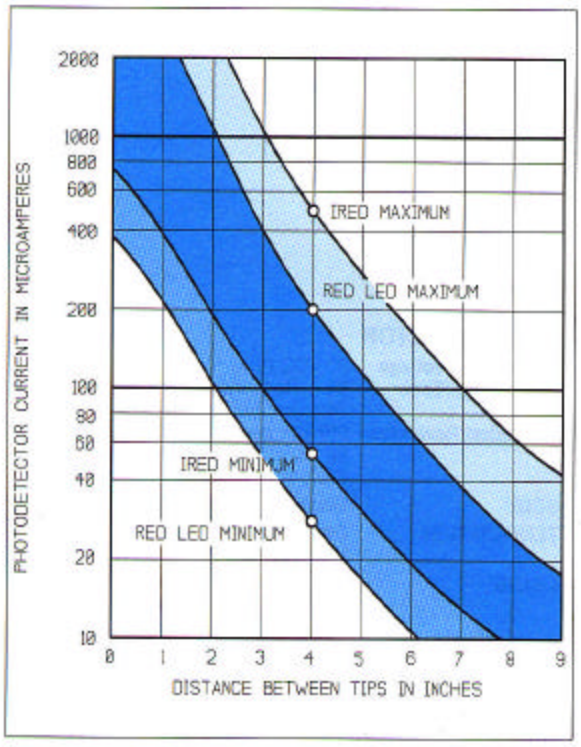
PHOTODETECTOR

Operating Voltage	30 VDC (V_{CE})
Response Time	See Response Time Chart under *Technical Information.*
Spectral Response	910 nm peak, (P60001) filtered down 26 dB at 750 nm and down 60 dB at 700 nm.
BODY	Glass-filled polycarbonate
TEMPERATURE	Operating: 0°C to 50°C Storage: -40°C to 50°C
LEADS	2 conductor with shield, 26 AWG, PVC-insulated, 6 ft minimum length. Type Q.

Dimensions:



Typical Performance Chart:



Compatibility With Controls:

The L60/P60 Series is compatible with all Clarostat Photoelectric Controls Products described in this databook (see pages 93 through 126). For high-speed operation, use the T41300 High-Speed Amplifier.

The L60001 radiation source uses a Gallium Arsenide infrared-emitting diode. A 68 ohm, 1/2 watt series current limiting resistor is supplied and *must be used* with all controls supplying 5 volts DC for source power; for modulating controls such as the R42/T42, R43/T43, or T60, a 27 ohm 1/4 watt resistor *must be used*.

The L60002 radiation source uses a visible red light-emitting diode; DC operation *requires the use* of an 82 ohm, 1/2 watt series limiting resistor. When operating with a modulating control, a 39 ohm, 1/4 watt resistor *must be used*.

Model Selection Guide:

Part Number	Description
L60001	Infrared Source
L60002	Visible Red Source
P60001	Phototransistor with Filter
P60002	Phototransistor w/o Filter

Variations:

LEADS

Additional lead lengths may be specified; contact Clarostat Sensors Division or the local Sales Representative.

Wiring Diagram: