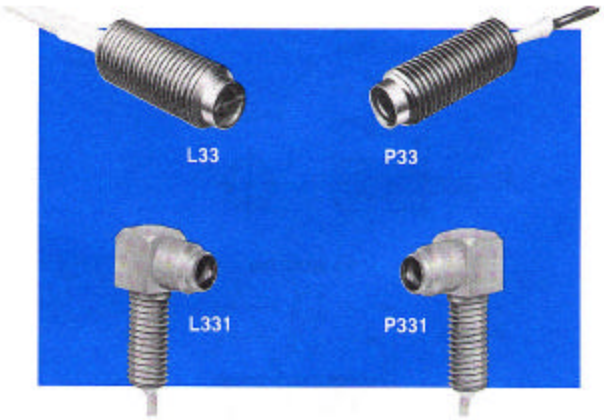
CLAROSTAT
SENSORS AND CONTROLS GROUP

SKAN-A-MATIC®

THRUBEAMS

Miniature LED Pair
L33/P33 Series



Features:

- IR or Visible Red LED light Source Available
- Plastic lens
- Small size
- Long life
- Our most popular thrubeam pair
- Two body styles available

Description:

The L33/P33 Series is a rugged LED thrubeam combination in miniature size, designed for use under conditions of severe shock and vibration. A specially selected Light Emitting Diode and photodetector are matched for optimum performance and are mounted in identical heavy duty housings.

Any L33 or P33 Series unit can be obtained in a choice of 3 models: a barrel body of anodized aluminum, a barrel body of stainless steel, or a right angle body of anodized aluminum.

The L33 Series contains a lens system to efficiently direct the LED's energy and is suitable for modulated operation. The IR model photodetector contains a filter to block visible ambient light.

Typical Applications:

- Parts counting
- Edge control
- Vibratory bowl feeders
- Positioning
- Detection of small parts
- Safety barrier
- Conveyor control

Specifications: (at 25°C)

LIGHT SOURCE—IR LED

Input	100 mA max. with resultant voltage drop of 1.1 to 1.7 VDC; derate at 1 mA per degree above 25°C ambient
Modulated Input	1 A max., 10% duty cycle at 1 kHz min.
Reverse Voltage	2 V max.
Spectral Emission	940 nm peak

LIGHT SOURCE— VISIBLE RED LED

Input	50 mA max. with resultant voltage drop of 1.8 VDC typical; derate at 1 mA per degree above 25°C ambient
Modulated Input	80 mA max., 50% duty cycle at 1 kHz min.
Reverse Voltage	4V max.
Spectral Emission	660 nm peak
BODY	See Model Selection Guide
TEMPERATURE	Operating: 0° to 50°C Storage: – 40° to 85°C
LEADS	2 cond. 24 ga., teflon covered cable, 6 ft. long, Type A

PHOTODETECTOR

Operating Voltage	20 VDC max.
Response Time	See Response Time Chart under *Technical Information*
Spectral Response	910 nm peak
FILTER (Used w/ IR light source)	Transmits less than 5% at 750 nm and less than 0.1% at 700 nm
BODY	See Model Selection Guide
TEMPERATURE	Operating: 0° to 50°C Storage: – 40° to 50°C
LEADS	2 cond. 26 ga., teflon covered cable with shield, 6 ft. long, Type B

OPERATING PARAMETERS

LIGHT SOURCE	RATED SEPERATION	BEAM DIAMETER	SMALLEST DETECTABLE OBJECT
IR LED	36"	.16"	.05"
VISIBLE RED LED	24"	.10"	.03"

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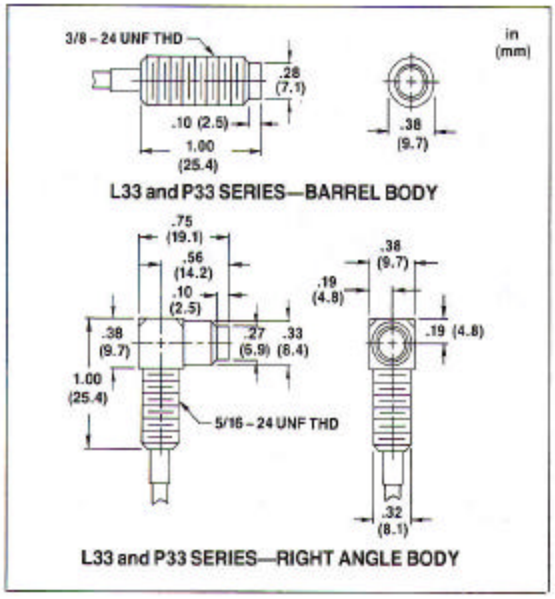
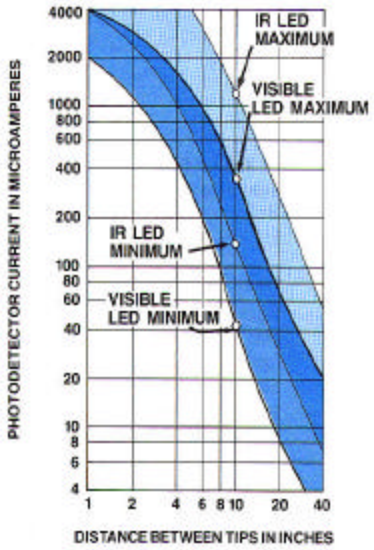
Dimensions:



Typical Performance Chart:



Circles indicate guaranteed test limits. See Quality Control under *Technical Information*, pg. 16.

Compatibility With Controls:

The L33/P33 Series is compatible with all Skan-A-Matic controls. For high speed operation use the T41300 High Speed Amplifier.

The **IR light source** utilizes a 100 mA Light Emitting Diode. A 39 ohm, 1 W current limiting resistor is supplied and must be used with Skan-A-Matic controls furnishing 5 VDC for light source power. With modulating controls such as our R42/T42 and R43/T43, no current limiting resistor is used.

The **visible red light source** utilizes a 50 mA Light Emitting Diode. A 68 ohm, ½ W current limiting resistor is supplied and must be used with Skan-A-Matic controls furnishing 5 VDC for light source power. With modulating controls such as our R42/T42 and R43/T43, 6.8 ohm ¼ W current limiting resistor must be used.

Model Selection Guide:

LIGHT SOURCE—IR LED

Part #	Body Style	Body
L33007	Barrel	Red anodized aluminum
L33014	Barrel	Stainless steel with red epoxy bead
L33107	Right Angle	Red anodized aluminum

PHOTODETECTOR—USE WITH IR LED ONLY

Part #	Body Style	Body
P33001	Barrel	Gold anodized aluminum
P33014	Barrel	Stainless steel with black epoxy bead
P33101	Right Angle	Gold anodized aluminum

LIGHT SOURCE—VISIBLE RED LED

Part #	Body Style	Body
L33008	Barrel	Black anodized aluminum
L33018	Barrel	Stainless steel with red epoxy bead
L33108	Right Angle	Black anodized aluminum

PHOTODETECTOR—
USE WITH VISIBLE RED LED ONLY

Part #	Body Style	Body
P33008	Barrel	Gold anodized aluminum
P33018	Barrel	Stainless steel with white epoxy bead
P33108	Right Angle	Gold anodized aluminum

Wiring Diagram: